

DEPARTMENT OF THE ARMY
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6900 Georgia Avenue, NW
Washington, DC 20307-5001

WRAMC Pamphlet
No. 385-1

21 January 2004

Safety
WRAMC COMMAND SAFETY PROGRAM

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* This publication supersedes WRAMC Pam 385-1, Change 1, dated 12 August 2002.

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C H A P T E R 1 SAFETY PROGRAM MANAGEMENT

1-1. Purpose. This regulation establishes the Walter Reed Army Medical Center (WRAMC) safety program. It prescribes policies, responsibilities and procedures for implementing the Commander's safety program, to include the requirements of the Occupational Safety and Health Administration (OSHA), the Department of Defense (DOD), and the Department of the Army (DA).

1-2. Applicability. The provisions of the regulation apply to WRAMC installation; all military personnel including students and tenant, lodger and training units; all civilian employees including DA civilians (DAC), contractor personnel; and visitors.

1-3. Reference. AR 385-10, The Army Safety Program, 29 February 2000, requires a comprehensive safety program. Other related and required references cited in the publication are listed at Appendix b.

1-4. Explanation of Terms. Explanation of Terms Are Outlined In Appendix i.

1-5. Background. The regulation is comprised of stand-alone chapters, each designed to describe the purpose, objective, responsibilities and procedures of one component of the overall safety program. Each chapter is intended to be self-contained and, when distributed to the relevant user, serve as complete guidance for the activity (e.g., Arms Room Safety) without reference to the remainder of the regulation. These stand-alone chapters, taken together, comprise the comprehensive WRAMC safety program.

1-6. Objective. The goal of the WRAMC safety program, is to fully support the command mission while minimizing accidental injury to personnel, damage to equipment and facilities, and interruption of training or operations. Effective implementation of the safety program will furnish each soldier and employee a place of employment free from recognized hazards that cause, or are likely to cause, death or serious physical harm.

1-7. Policy.

a. The safety program is a commander's program. Commanders and supervisors at each level are their own safety officers and are directly responsible for implementing applicable portions of the overall safety program.

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b. The WRAMC Safety Manager manages the Installation Safety Program and is directly responsible to the Garrison Commander.

c. The WRAMC Safety Office manages general safety function:

(1) BASOPS SAFETY provides safety advise on all BASOPS safety matters, including the Occupational Safety and Health Act (OSHA), directly to the Installation Commander. BASOPS safety develops and disseminates safety guidance to tenants and evaluates the effectiveness of their safety programs.

C H A P T E R 2 RISK MANAGEMENT

2-1. Purpose. To establish responsibilities and procedures for the integration of risk management into all operations conducted within the WRAMC.

2-2. Objective. To reduce injuries and property damage by identifying and assessing risks prior to the start of all operations on WRAMC Installation.

2-3. Responsibilities:

a. Unit commanders will: Include risk management in the unit mission-essential task list.

b. Commanders and Directors will: Ensure that military and civilian supervisors employ risk management techniques prior to commencing all operations.

c. Supervisors will:

(1) Become familiar with the five-step risk management process and establish procedures for implementing this process into all operations within their area of responsibility.

(2) Instruct their workforce in the risk management process and its implementation in day-to-day operations.

(3) Ensure that risk management techniques are integrated into all operations.

2-4. Procedures.

a. Although Army operations are not hazard-free, if risks can be eliminated from an operation within WRAMC they will be eliminated. If risks cannot be eliminated, they will be managed down to an acceptable level.

b. The process of identifying and eliminating risks, and managing residual risks down to an acceptable level, is called Risk Management.

c. The Five Step Risk Management Process is as follows:

(1) **RISK IDENTIFICATION:** Think through the operation or mission and determine what is risky and what is not.

This is best accomplished by breaking the operation down into each task required to accomplish the operation, then identifying each hazard associated with the task, and then eliminating all unnecessary risks.

(2) **RISK ASSESSMENT:** Evaluate the residual risks and determine how great each risk is. This is best accomplished by analyzing and assessing the severity of each hazard based on the probability of the hazard occurring and the effect, if it occurs, on the operation. This is the time to consider variables such as weather and equipment condition. The MATRIX at Appendix k helps identify EXTREMELY HIGH RISK, HIGH RISK, MODERATE RISK and LOW RISK.

(3) **RISK DECISION MAKING:** Decide which risks are acceptable and which are not when balancing the benefits of the operation against the risks in terms of potential accident losses. Develop procedures to reduce the risks which cannot be eliminated to acceptable levels and still accomplish the mission. Control procedures may include new or revised task standards, operational procedures or parameters, training requirements, or maintenance standards.

(4) **CONTROL IMPLEMENTATION:** The controls established in step #3 must then be implemented. Controls may be as simple as conducting a short safety briefing or as substantial as a written SOPS.

(5) **SUPERVISE:** Finally, the operation must be supervised to evaluate control measures and ensure they are enforced.

d. There are three basic rules governing use of this process.

(1) **NO UNNECESSARY RISK SHOULD EVER BE ACCEPTED.** The leader who has the authority to accept a risk has the responsibility to protect his personnel and equipment from unnecessary risk. If the risk could be eliminated or reduced, and the mission still be accomplished, then that risk is unnecessary.

(2) **RISK DECISIONS MUST BE MADE AT THE APPROPRIATE LEVEL.** The leader who will stand on the carpet if things go wrong is the leader who should make the decision to accept or reject the risk. In some cases that will be a senior officer however, in many cases it will be the first-line supervisor.

(3) **THE BENEFITS OF TAKING A RISK MUST OUTWEIGH THE POSSIBLE COST OF THE RISK.** Leaders must understand the risk involved and have a clear picture of the benefits to be gained from taking the calculated risk.

e. One handy tool for assessing risks is to rate each functional area on a scale of one to five (the higher the number, the more dangerous the condition). Assign total numbers for EXTREMELY HIGH RISK (e.g., over 30), HIGH RISK (e.g., 24 to 29) MODERATE RISK (e.g., 13 to 23), and LOW RISK (e.g., less than 12). Then eliminate or manage the risks until the total number is acceptable.

f. *Examples of functional areas are as follows:*

(1) Nature of the operation. How risky is it?

(2) First-line supervision. Is supervision experienced? Is it organic to the unit or OPCON?

(3) Soldier/worker selection. Are the soldiers/workers experienced in the level of complexity required by the operation?

(4) Leader rest and preparation time. Is it adequate, optimal or minimal?

(5) Soldier/worker endurance. Adequate, optimal or minimal?

(6) Equipment status. Is it old or new? Is it highly maintained or in need of maintenance?

(7) Environmental conditions. Will the operation be conducted during the day or at night? Will the weather be warm or cold, wet or dry? Will visibility be good or hampered by fog or snow?

2-5. The Risk Assessment Matrix

a. The matrix at Appendix k measures the probability of a hazard occurring against the potential effect on the operation if it occurs, should be used in concluding if a risk is EXTREMELY HIGH, HIGH, MEDIUM or LOW.

b. The effect of a hazard is defined as follows.

(1) CATASTROPHIC: Death or permanent total disability, system loss, major property damage.

(2) CRITICAL: Permanent partial disability, temporary total disability, major system damage, and significant property damage.

(3) MODERATE: Minor system or property damage, minor injury.

(4) NEGLIGIBLE: First aid injury, minor system impairment.

c. The probability of a hazard occurring is defined as follows.

(1) FREQUENT: Occurs often in career/equipment service life.

(2) LIKELY: Occurs several times in career/equipment service life.

(3) OCCASIONAL: Occurs sometimes in career/equipment service life.

(4) SELDOM: Remote chance of occurrence in career/ equipment service life, expected to occur sometime in service life.

(5) UNLIKELY: Possible but improbable, safe to assume will not occur in career/equipment service life.

d. Risk levels are defined as follows.

(1) EXTREMELY HIGH: Loss of ability to accomplish mission.

(2) HIGH: Significantly degrades mission capabilities.

(3) MEDIUM: Degrades mission capabilities.

(4) LOW: Little or no impact on mission accomplishment.

2-6. Risk Approval Authority. Risk acceptance must be made at the appropriate level of command. The person who ultimately will be held responsible for an accident is the person who should accept or reject the risk. For example, a first line supervisor or squad leader should not accept a risk that the commander would be held responsible for if an accident occurs.

C H A P T E R 3 ACCIDENT REPORTING AND RECORDING

3-1. Purpose. The purpose of reporting and recording WRAMC accidents is to identify unsafe practices and unsafe working conditions in the workplace, in accordance with (IAW) the requirements of AR 385-40 and in order to develop effective preventive measures.

3-2. Objective. All accidents occurring within WRAMC will be reported IAW AR 385-40 and WRAMC accident reports will be incorporated into a database for use in identifying trends, initiating corrective action and reducing accidents.

3-3. Responsibilities.

a. The WRAMC Installation Safety Office will:

(1) Ensure that a system for command review is established which requires review of all recordable accidents by the commander. This system may include the requirement for completion of a DA Form 285/285-AB-R (Abbreviated Ground Accident Reporting) for all recordable accidents.

(2) Coordinate with the Staff Duty Officer, Department of Army Police (DA Police), Emergency Room and Occupational health clinic periodically to identify accidents not reported to the safety office.

(3) Provide training to supervisors and employees on procedures for completing the US Army Accident Investigation Report (DA Form 285/285-AB-R), and the Report of the Employer Regarding an Occupational Illness.

(4) Telephonically report all Class A accidents to MEDCOM Safety immediately upon learning of the accident.

(5) Review and analyze accident data, submitted by the tenant safety offices, to identify accident trends and develop corrective action.

(6) Forward consolidated DA Forms 285/285-AB-R to the U.S. Army Safety Center (USASC) for recordable U.S. military accidents. (NOTE: Safety offices may electronically submit this data directly to the USASC once the system is operational.)

(7) Forward copy of DA Form 285 to MEDCOM Safety for all Class A accidents.

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(8) Provide accident data updates to the Installation and Garrison command group.

(9) Maintain copy of WRAMC Form 1332 (Appendix i) civilian employees.

(10) Maintain an installation accident database.

(11) Analyze installation accident data to identify accident trends and initiate corrective action.

b. WRAMC Hospital, WRAIR, and AFIP Safety Offices will:

(1) Ensure that an accident notification system is in place, which guarantees that every accident occurring within the area of responsibility is promptly brought to the attention of the appropriate safety office.

(2) Promptly inform the WRAMC Installation Safety Office of all Class A-C accidents and all accidents involving ammunition, explosives or pyrotechnics.

(3) Submit copies of completed DA Forms 285/285-AB-R for all U.S. military accidents (and other accidents listed in paragraph 4d below) to the WRAMC Installation Safety Office NLT 30 days after the date of accident occurrence. (NOTE: The DA Form 285 data entry software should be utilized as it becomes available.)

(4) Provide quarterly accident data to the Installation Safety Office by the 12th day of October, January, April and July) Forward copies of DA Forms 285/285-AB-R or WRAMC form 1332 for all recordable accidents to the WRAMC Installation Safety Office.

c. Supervisors will:

(1) Report all accidents immediately to the responsible safety office.

(2) Promptly investigate the circumstances surrounding an accident, and ensure that corrective actions are initiated to prevent recurrence of similar accidents.

(3) Ensure all required forms are properly completed for each accident that has occurred within their workplace.

(4) Forward the completed DA Form 285/285-AB-R within 7 working days and WRAMC Form 1332 within 3 working days to the responsible safety office.

d. Employees will:

- (1) Report all accidents immediately to their supervisor/responsible safety office.
- (2) Promptly seek medical care and report to Occupational Health Clinic.
- (3) Ensure all required forms are properly completed for each accident that has occurred.
- (4) Forward the completed forms within 3 working days to the responsible safety office.

3.4. Procedures.

- a. Accident reporting and recording procedures will be IAW AR 385-40.
- b. All classes of accidents, as defined in AR 385-40 are reportable to the local safety office.
- c. Accidents involving U.S. military personnel and property are reportable to the United States Army Safety Center (USASC) on DA Form 285/285-AB-R. The USASC does not require DA Form 285 for U.S. civilian injury or illness unless it results from an accident involving property damage under the criteria of Class A through D, if property damage is more than \$ 2,000 or if materiel failure is cited as a cause.
- d. Forwarding of DA Forms 285 to MEDCOM is not required except for Class A accidents.
- f. *In completing the DA Form 285, the following signatures will be used:*
 - (1) Block 64a will be signed by the supervisor or immediate commander making the investigation and report.
 - (2) Block 66a will be signed by the intermediate supervisor or second-line commander.
 - (3) Block 67 will be signed by the appropriate commander.
 - (4) Block 68 will be signed by the senior tactical commander (optional).
- g. *In completing DA Form 285-AB-R (Abbreviated Ground Accident Report) the following signatures will be used.*

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(1) Block 41a will be signed by the supervisor, director or unit commander.

(2) Block 42b will be signed by the appropriate commander.

h. Section G of DA Form 285 (Block 43. of DA Form 285-AB-R) will be completed by the responsible safety office.

C H A P T E R 4 ACCIDENT INVESTIGATION

4-1. Purpose. The purpose of accident investigation is identifying accident causes and system deficiencies to prevent future occurrences. AR 385-40 requires accident investigations and findings are instrumental in Army accident prevention programs. (NOTE: Accidents requiring a Centralized Accident Investigation Board, Ground (CAIG) will be investigated in accordance with MEDCOM Regulation 385-7 and chapter 5 or 6 of this regulation.

4-2. Objective. The appropriate safety professional, officer or representative at the appropriate level of command will investigate all accidents occurring within WRAMC. The findings of the investigation will lead to corrective action designed to prevent future accidents.

4-3. Responsibilities.

a. The WRAMC Command Group will:

(1) Notify the WRAMC Installation Safety Office of all serious accidents (Telephone number during duty hours: (202) 782-1514. After duty hours: see notification roster.)

(2) Notify the MEDCOM Safety Office (DSN 471-8101/6838 or (202) 221-8101/6838 of all Class A and B accidents occurring within WRAMC. (After duty accidents will be reported to the MEDCOM Command Center, (210) 221-6319/6936.)

(3) Direct WRAMC Installation Safety to conduct an investigation of any accident of special concern to the Commanding General or the Garrison Commander. (In the absence of such direction, investigation decisions will be as outlined in the remainder of this chapter.)

b. The WRAMC Installation Safety Office will:

(1) Inform the Command Group of all major accidents or incidents reported to the safety office by other than staff elements. (During duty hours: (202) 782 3355. After duty hours (SDO): (202) 782-7309)

(2) Inform MEDCOM Safety (DSN 471-8101/6838 or (202) 221-8101/6838) of all Class A and B accidents occurring within WRAMC IAW chapter 5.

(3) Respond to and investigate all accidents as directed by the Command Group.

(4) Initiate action, when appropriate, for the immediate elimination of accident causing factors.

(5) Inform the appropriate safety office of accidents which would be better investigated at by their team.

(6) Respond to and investigate accidents/incidents involving ionizing and non-ionizing radiation IAW chapter 19.

(7) Coordinate with other agencies (e.g. DA Police, CID, EOD), if necessary, to obtain related background information or assistance.

(8) Provide a written report, for each accident investigated by the Safety Office, to the commander to include a brief narrative of events leading up to the accident, probable cause and proposed corrective action.

(9) Refer all outside requests for information on accidents to the WRAMC Public Affairs Office.

c. Supervisors will:

(1) Conduct accident/incident investigation.

(2) Report all safety violations to the appropriate safety office.

(3) Maintain Log and investigation report on all safety incidents investigated and corrective action taken.

4-4. Procedures.

a. When an accident does occur, the following steps must be taken:

(1) Take care of any injuries.

(2) If vehicles are involved, contact the Provost Marshal Office.

(3) Obtain specific information - who, what, when, where, why, and how?

(4) Determine the primary cause and contributing causes.

(5) Obtain estimates of damages to materials and equipment and the extent of any injuries.

(6) Initiate the necessary corrective action.

(7) Notify the WRAMC Safety Office.

b. Value of Accident Investigation Information. The facts gathered during an accident investigation should be the basis for action to eliminate or to improve the conditions that caused that accident. This information is also valuable for job training and instruction; it is especially useful in teaching newly assigned personnel. A thorough study of accident investigation could result in the obtaining of better equipment, the modifying of existing machine and shop layout, or the establishing of a new method of improved efficiency. Through proper accident investigation and an analysis of investigation data, the supervisor and the WRAMC Safety Manager should have sufficient material to develop an excellent set of accident prevention procedures.

C H A P T E R 5

CENTRALIZED ACCIDENT INVESTIGATION, GROUND (CAIG)

5-1. Purpose. The Centralized Accident Investigation, Ground (CAIG) program ensures that serious non-aviation accidents resulting in fatalities, serious injuries and/or very high property damage (i.e. Class A and B ground accidents) are thoroughly investigated by safety CAIG Boards appointed by a general officer. The lessons learned from these investigations form the backbone of Army accident prevention measures.

5-2. Objective. All Class A and B ground accidents occurring within WRAMC will be investigated by a properly appointed CAIG Board IAW AR 385-40. Lessons learned from the investigation will be promptly incorporated into WRAMC accident prevention procedures.

5-3. Responsibilities.

a. *The Commander*, WRAMC is the appointing and approving authority for all CAIG Boards formed as the result of accidents involving WRAMC personnel, when the U.S. Army Safety Center (USASC) chooses not to investigate.

(1) The President and other members of the Board will be appointed on orders from an organization outside the unit (for example, company, battery, troop) that sustained the accident. (Board members will not be from the same unit, which incurred the accident and will be screened to ensure they have no personal interest in the outcome of the investigation.)

(2) CAIG Boards will consist of at least three (3) members (President, Recorder, and Member) and a technical advisor from safety (non-voting member).

(3) The President of a CAIG will have the rank of major, CW5 or above and, preferably, be branch qualified in the area being investigated.

(4) The recorder and member will be commissioned or warrant officers.

(5) Appointment to a CAIG board constitutes a full time duty assignment until the final command briefing and takes precedence over any other duties or other obligations.

b. *The WRAMC Installation Safety Manager will:*

(1) Prepare appointment orders for WRAMC CAIG Boards based on directions from the Commander, WRAMC or his designated representative.

(2) Appoint a safety professional from WRAMC to advise and assist the President of WRAMC CAIG Boards. A safety professional from WRAMC will be appointed for non-WRAMC CAIG Boards formed within WRAMC at the request of the Board President.

(3) Assist the President of all CAIG Boards in identifying and obtaining required expert Board members.

(4) Provide CAIG Boards, both WRAMC and non-WRAMC, with required office space and administrative support.

(5) Monitor the progress of the investigation, provide additional technical advice as required and ensure the final report of WRAMC CAIG Boards complies with regulatory requirements.

(6) Publish final investigation lessons learned, as necessary.

(7) Assume the responsibilities of the MEDCOM Safety Director (paragraph 3d(3)-(5), above), for all accidents occurring within the WRAMC area of responsibility.

c. Commanders of units experiencing Class A or B accidents will:

(1) Initiate action to assist and evacuate injured personnel.

(2) Initiate action to eliminate immediate danger and reduce environmental damage at the accident site.

(3) Secure the accident site, until relieved by a proper authority, to prevent disturbance of the site or movement of wreckage and equipment.

(4) Compile all training records, firing data, maintenance records, a list of witnesses, and other pertinent data for submission to the CAIG board upon request.

(5) Appoint POC to act as liaison between the CAIG board and the organization involved in the accident.

d. The CAIG Board President will:

(1) Begin the investigation immediately after being notified of appointment.

(2) Take control of the accident site and assume primary responsibility for all accident investigation activities.

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(3) In-brief the Commander, WRAMC or his designated representative as soon as practical after commencing the investigation.

(4) Interview witnesses as soon as possible after arriving at the accident site.

(5) Release witnesses to the collateral investigating officer as soon as interviews and follow-up interviews are complete.

(6) Prevent the release of any witness statements obtained in confidence. (NOTE: The purpose of the safety investigation is to establish cause and prevent future accidents, not to assess blame.)

(7) Cooperate with other accident/malfunction investigation teams and coordinate investigation activities without relinquishing control or primary responsibility.

(8) Release the accident site after all legitimate investigation activities have been completed.

(9) Conduct the investigation and complete the investigation report IAW AR/DA PAM 385-40, to include the interviewing of witnesses, the preservation of evidence and the initiation of further technical studies when required.

(10) Consider the appointment as CAIG Board President a full time duty assignment, taking precedence over any other duties or other obligations, until the final command briefing.

(11) Out-brief the Commander, WRAMC after completion of the investigation and/or prior to leaving the WRAMC area of responsibility, if any WRAMC facility or procedure is considered either present and contributing or present and non-contributing to the accident.

e. CID/DA Police personnel will:

(1) Release photographs, physical evidence and witness statements to CAIG Board President when criminal activity is not suspected.

(2) Provide assistance to CAIG board upon request of Board President.

f. Other investigation teams will:

(1) Report to the CAIG Board President and deliver a complete list of investigators conducting the investigation.

(2) Present the CAIG Board President with a written request for support and access to the accident site, specifying the type of support required and the duration of the support.

(3) Coordinate activities and fully cooperate with the CAIG Board President.

(4) Out brief the CAIG Board President, and the WRAMC Commander if requested, prior to departure from the WRAMC area of responsibility.

5-4. Procedures.

a. *Immediate Actions.* The first commander in the chain of command who becomes aware of an on duty class A or B accident will:

(1) Ensure that victims are cared for and casualties evacuated or treated as needed. This includes moving victims and security guards to safe distances from danger or hazard.

(2) Secure the accident site, until relieved by a proper authority, to prevent disturbance of the site or movement of wreckage and equipment. Photographs should be obtained prior to wreckage removal.

(3) Notify the WRAMC Command Group (during duty hours normally DSPO; after duty hours: Administrative Officer of the Day (AOD)).

(4) Take action to reduce environmental damage. Spilled oil, fuel, and other hazardous material will be cleaned up as soon as possible. If a hazard exists, cleanup will take precedence over preservation of the accident site.

(5) Release control of the accident site to the CAIG Board President upon his arrival.

b. *Secondary Actions.* It is imperative that the CAIG Board interviews all witnesses as soon as possible and prior to the collateral investigating officer (15-6).

(1) The CAIG Board will obtain access to all evidence, photographs, and witness statements collected by DA Police and CID personnel.

(2) The CAIG Board will assemble all personnel, medical, and financial records of personnel involved in the accident and all maintenance records on the equipment involved in the accident.

(3) If evidence is forwarded by CID to laboratories for analysis, the Board President will obtain a copy of the laboratory report.

(4) The CAIG Board will assemble all information required by AR 385-40. The Ground Accident Investigator Handbook and the USASC Accident Investigators Handbook will be used as a guide.

(5) When necessary, the CAIG Board President will request additional laboratory analysis or studies to determine the cause of the accident. The results of this additional testing will be considered common source factual data for use by all investigators.

C H A P T E R 6 ACCIDENT INVESTIGATION, AVIATION

6-1. Purpose. The aircraft accident investigation program ensures that all aviation accidents and incidents are reported and thoroughly investigated and that serious accidents (Class A-C) are investigated by a Centralized Accident Investigation (CAI) Board. Lessons learned from these investigations form the backbone of Army aviation accident prevention measures.

6-2. Objective. All classes of aviation accidents and incidents occurring within WRAMC will be investigated IAW AR 385-40 and lessons learned will be promptly incorporated into WRAMC accident prevention procedures.

6-3. Responsibilities.

a. *The Commander*, WRAMC is the appointing and approving authority for all WRAMC CAI Boards, when the U.S. Army Safety Center (USASC) chooses not to investigate. (Normally, the USASC will investigate all Class A, and selected Class B, aviation accidents.)

(1) The President and other Board members will be appointed on orders from an aviation organization outside the unit that sustained the accident. (Board members will not be from the same unit, which incurred the accident and will be screened to ensure they have no personal interest in the outcome of the investigation.)

(2) Class A and B CAI Boards will consist of at least four (4) members. The members will include:

(a) A President who is a commissioned army aviator equal to or senior in grade to the operators (PC and PI) of the aircraft involved in the accident.

(b) A Recorder who is a senior or master army aviator qualified in the mission, type, design, and series of the aircraft involved in the accident.

(c) A flight surgeon or flight physician's assistant when injuries are sustained or psychological, physiological, or pathological factors is present.

(d) An army aviator qualified as a maintenance test pilot (MTP) (commissioned or warrant officer), a nonrated aircraft maintenance technical inspector (TI), or a nonrated warrant officer aviation maintenance technician.

(e) A U.S. Air Force Weather Observer, officer or NCO, when weather is a suspected factor.

(f) Other members as directed by the President or appointing authority.

(3) An Aviation Safety Officer (ASO) will be a non-voting advisor to the Board to assist with the technical aspects of investigation and reporting.

(4) Class C Boards will be similarly constituted but will consist of at least three members.

(5) Class D accidents and Class E incidents do not require a CAI Board but the appointing authority may appoint one based on the circumstances surrounding the accident.

(6) The appointment to a Board constitutes a full time duty assignment until the final command briefing and takes precedence over all other duties and obligations.

(7) The Board has "exclusive first rights" to witnesses and all physical evidence. (Because of the possible safety implications for aircraft worldwide, the CAI Board investigation takes priority over other investigative agencies and boards.)

b. *The WRAMC Command Group will* conduct notification procedures IAW chapter 4. above.

c. *Commanders of units experiencing Class A, B or C aircraft accidents will:*

(1) Notify the WRAMC Command Group directly (after duty hours call the Staff Duty Officer (SDO) at 202 782-7309.

(2) Ensure that drug and alcohol tests are performed on all personnel involved in the accident.

(3) Notify the Commander (This notification is also required for Class D + E accidents and incidents.)

(4) Activate the local aircraft pre-accident plan.

(5) Initiate action to assist and evacuate injured personnel.

(6) Evacuate all crewmembers and others involved in the accident to the closest medical facility for physical examinations, whether or not they appear to be injured.

(7) Secure the accident site, until relieved by a proper authority, to prevent disturbance of the site or movement of wreckage and equipment.

(8) Initiate action to eliminate immediate danger at the accident site.

(9) Request an airspace no-fly restricted zone of 2 Km's around the accident/incident site. (Any other aircraft using the area as a landing site, staging area, or training area will be diverted and instructed to land at an approved MTA landing site outside the 2 Km no-fly zones. The only exceptions will be MEDEVAC aircraft and one (1) aircraft to orbit the site in order to provide continuous communications with rescue agencies.

(10) Inform responding crash rescue personnel of dangerous or hazardous cargo/ammunition that may be on the accident aircraft or in the immediate vicinity of the crash site.

(11) Appoint POC to act as liaison between the CAI Board and the organization involved in the accident.

(12) Suspend all aviation activity if the fuel from a local POL is suspected.

(13) Establish a crash pass system to limit access to the accident/incident site only to authorized personnel.

(14) Compile all training records, firing data, maintenance records, a list of witnesses, and other pertinent data for submission to the President of the Board.

d. Commanders of units experiencing Class D accidents or Class E incidents will conduct a thorough investigation IAW AR 385-40.

(1) If the unit is a WRAMC asset, the commander will forward a copy of the accident report, including causal factors, to the WRAMC Safety Office within 5 days from the date of the accident.

(2) If a detailed investigation is requested, commanders will fully complete a DA Form 2397-AB-R (Abbreviated Aircraft Accident Report) (AAAR) and all applicable 2397-series forms IAW DA PAM 385-40.

e. The WRAMC Safety Manager will:

(1) Prepare appointment orders for USASC and WRAMC CAI Boards based on directions from the Commander, WRAMC or his designated representative.

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(2) Appoint an ASO as an advisor to the Board to assist with the technical aspects of investigating and reporting Class A-C accidents.

(3) Appoint a safety professional to assist and advise the WRAMC unit commander during the investigation of Class D accidents and Class E incidents.

(4) Provide initial radiation monitoring if appropriate.

(5) Assist the Board President in identifying and obtaining additional required expert board members.

(6) Provide all investigation boards with required office space and administrative/logistical support.

(7) Monitor the progress of the investigation, provide additional technical advice as required and ensure the final report of WRAMC investigations complies with regulatory requirements.

(8) Publish final investigation lessons learned, as necessary.

f. *The CAI Board President will:*

(1) Begin the investigation immediately after being notified of appointment.

(2) Take control of the accident site and assume primary responsibility for all accident investigation activities.

(3) In-brief the Commander, WRAMC or his designated representative as soon as practical after commencing the investigation. (Class A and B accidents only.)

(4) Interview witnesses as soon as possible after arriving at the accident site.

(5) Release witnesses to the collateral investigating officer as soon as interviews and follow-up interviews are complete.

(6) Prevent the release of any witness statements obtained in confidence. (NOTE: The purpose of the safety investigation is to establish cause and prevent future accidents, not to assess blame.)

(7) Cooperate with other accident/malfunction investigation teams and coordinate investigation activities without relinquishing control or primary responsibility.

(8) Release the accident site after all legitimate investigation activities have been completed.

(9) Conduct the investigation and complete the investigation report IAW AR 385-40 and DA Pam 385-40, to include the interviewing of witnesses, the preservation of evidence and the initiation of further technical studies when required.

(10) Consider the appointment as President a full time duty assignment, taking precedence over any other duties or other obligations, until the final command briefing.

(11) Out-brief the Commander, WRAMC, or his designated representative, after completion of the investigation and/or prior to leaving the WRAMC area of responsibility.

g. CID/DA Police personnel will:

(1) Secure the accident site until released by the Board President.

(2) Ensure that unauthorized personnel are kept away from the accident site and that the scattered wreckage debris is not moved or disturbed unless necessary to remove injured personnel or to get access to the accident site.

(3) Identify witnesses by obtaining name address and phone number.

(4) Take photographs of all evidence, which must be removed, from the accident site.

(5) Release photographs, physical evidence and witness statements to the Board President.

(6) Provide assistance to the Board upon request of the President.

h. The on-site fire chief will:

(1) Ensure that crash rescue personnel wear Self Contained Breathing Apparatus (SCBA) while fire fighting and conducting rescue operations due to high levels of toxic fumes and airborne particles present during aircraft fires.

(2) Maintain at least one fire truck on station at the accident/incident site until all remaining fuel, oil, and other hazardous material is removed from the accident site.

i. *EOD* will respond immediately to the accident/incident site if dangerous or hazardous cargo is on board the aircraft or in the immediate area of the accident site.

(The primary EOD mission is to ensure the safety of crash rescue and accident investigation personnel.)

j. *The Directorate of Public Works will:*

(1) Provide, on request, personnel and equipment necessary to clear debris, move earth, set up portable lighting equipment, and any other required engineering assistance.

(2) Provide personnel to assist the Board President with surveying and mapping the debris pattern and approach departure angles.

(3) Determine environmental damage.

k. *Collateral Investigation Reports.*

(1) A collateral investigation is required on all Class A-C aviation accidents, and for those accidents the Commander, WRAMC feels will generate a high degree of public interest or will result in litigation against the Government.

(2) Safety personnel will not be involved in tracking, handling, or reviewing collateral investigations, nor will they be involved in establishing collateral investigation procedures.

C H A P T E R 7

SAFETY AND OCCUPATIONAL HEALTH INTERFACE

7-1. Purpose. AR 385-14 establishes the Safety and Occupational Health Interface (SOHI) Program to coordinate the industrial hygiene (IH) and occupational health (OH) requirements of AR 40-5 with the safety and occupational health requirements of AR 385-10.

7-2. Objective. All physical and health hazards in the command will be identified and quantified, through safety/OH/IH inspections. An automated database of safety and occupational health hazards and personnel exposed to health hazards will be established. Health hazards will be ranked by priority of risk.

7.3 Responsibilities.

a. *Installation safety manager, WRAMC hospital, WRAIR, and AFIP safety managers will:*

(1) Assist OH/IH personnel located on WRAMC Installation in coordinating the activities of the SOHI program.

(2) Provide support to Mission safety and Tennant activity offices in implementing the SOHI program.

(3) Use the IH narrative reports to establish priorities for correction of identified deficiencies.

(4) Develop an annual occupational safety and health (OSH) inspection schedule identifying those workplaces of OH/IH concern.

(5) Conduct baseline surveys of all workplaces, operations and facilities, IAW AR 385-10, in coordination with (and jointly with, if possible) OH/IH personnel.

C H A P T E R 8
STANDARD ARMY SAFETY AND OCCUPATIONAL HEALTH INSPECTIONS (SASOHI)

8-1. Purpose. Safety evaluations and inspections are performed to identify and correct workplace safety hazards and unsafe work practices. The evaluations and inspections help to provide a safe and healthful workplace as well as comply with the requirements of AR 385-10.

8-2. Objective. Every workplace within WRAMC will be inspected at least once annually and deficiencies will be corrected expeditiously.

8-3. Responsibilities.

a. The Installation Safety Office will:

(1) Evaluate installation safety programs at least once each year IAW AR 385-10 to ensure that required inspections are being performed and that deficiencies are being tracked and corrected.

(2) Disseminate Department of the Army/OSHA guidance provided by higher headquarters.

(3) Review construction and upgrade plans, ensure safety design reviews of plans and specs take into account USACE standards IAW Chapter 3, AR 385-10.

(4) Inspect all workplaces in their areas of responsibility at least once each year (workplaces containing special hazards will be inspected more frequently) using Standard Army Safety and Occupational Health Inspection (SASOHI) procedures.

(5) Promote the introduction of risk assessment and risk management techniques for all operations involving the acceptance of risk (e.g., missions requiring the driving of government vehicles).

(6) Out brief the commander or designated representative on the inspection results, followed by a written report. Unsafe/unhealthful working conditions and abatement proposals will be included in the briefing and written report.

(7) Maintain a violation log (DA Form 4754 or local equivalent).

(8) Develop and follow-up on abatement plans to correct identified deficiencies.

(9) Ensure that all OSH projects submitted to the Commander contain an assigned RAC code and safety office priority.

(10) Coordinate OSH responsibilities with the local Union representative.

b. Supervisors will:

(1) Ensure that employees observe appropriate safety and occupational health rules and regulations, including the use of personal protective equipment (PPE) IAW chapter 14.

(2) Promptly evaluate and correct hazards reported by employees or identified by accident investigation. (No reprisal action will be taken against employees who identify hazards or raise safety concerns.)

(3) Provide procedures for employee reporting of hazards IAW 29 CFR 1960.28 and 29 CFR 1960.46.

(4) Employ risk assessment and risk management techniques for operations involving the acceptance of risk.

(5) Ensure that safety representatives are allotted sufficient time to fulfill their safety obligations.

(6) Ensure that required training for Safety Representatives and Collateral Duty Safety Officers (CDSO) are obtained through appropriate channels.

c. Safety Representatives or CDSO will:

(1) Distribute safety materials (e.g. flyers, publications, handouts, posters, etc.).

(2) Coordinate with the responsible safety office.

(3) Accompany safety office personnel on inspections.

(4) Assist safety office in accident investigations.

d. Procedures will be established to follow up on the correction of deficiencies identified during an inspection. DA Form 4753 (Notice of Unsafe or Unhealthful Working Conditions) may be completed and used for this purpose. This form will be posted on the nearest bulletin board.

RAC 1 and 2 violations that cannot be corrected with 30 calendar days of discovery will be recorded and maintained at the installation on DA Form 4756 (Installation Hazard Abatement Plan).

e. If corrective action has not been accomplished or interim safety measures are not being enforced (i.e. posting of the hazardous condition), the safety manager will notify the commander.

f. When operations involve the acceptance of risk, the hazards must be identified and assessed using simple risk assessment techniques, including a risk assessment worksheet. After the risks have been evaluated, a decision to perform the operation must be made weighing the risks of the operation against the benefits. Wherever possible control measures (such as performing the operation in daylight or performing a detailed safety briefing) should be implemented. Throughout the risk management process, the three basic rules of application must be followed.

(1) No unnecessary risk should ever be accepted.

(2) Risk assessment must be made at the appropriate level of command.

(3) Risk is acceptable if risk benefits outweigh risk costs.

g. Employees may fill out DA Form 4755 (Employee Report of Alleged Unsafe or Unhealthful Working Conditions). Although, this form is normally signed by the person completing the form, anonymous reports are acceptable. The report may be submitted directly to the safety office or through supervisory and command channels. Safety personnel will investigate all reports.

C H A P T E R 9 MOTOR VEHICLE AND TRAFFIC SAFETY

9-1. Purpose. Motor vehicle accidents are the leading cause of injuries and fatalities in the Army. An effective motor vehicle and traffic safety program IAW AR 385-55 will assist in reducing these accidents.

9-2. Objective. An effective motor vehicle accident prevention program resulting in reduced injuries and fatalities.

9-3. Responsibilities.

a. Installation Safety Office will:

- (1) Disseminate guidance for the command motor vehicle safety program.
- (2) Develop lessons learned from motor vehicle accidents for command-wide distribution.
- (3) Monitor driver's training courses.
- (4) Collect and analyze motor vehicle accident data and disseminate lessons learned.
- (5) Promote the introduction of risk assessment and risk management techniques for motor vehicle and traffic safety decisions.

b. AFIP, WRAIR and WR Hospital Safety Offices will:

- (1) Cooperate in the implementation of a local motor vehicle and traffic accident prevention program, to include promotional campaigns and seatbelt safety initiatives.
- (2) Monitor driver's training courses for their personnel.
- (3) Collect and analyze motor vehicle accident data and disseminate lessons learned.

c. Supervisors and first level commanders will:

- (1) Ensure that vehicle operations and maintenance are carried out in accordance with Army regulations and technical manuals.

(2) Ensure that qualified personnel are selected for driver testing and training, and that training and testing are conducted IAW AR 385-55, AR 600-55 and applicable TMs and FMs.

(3) Employ risk assessment and risk management techniques.

9-4. Procedures.

[NOTE: The term AMV applies to Army Motor Vehicles, Army rented or leased vehicles, and non-appropriated fund (NAF) vehicles. The term POV applies to autos, motorcycles, mopeds and bicycles, which are privately owned. ACVs are Army Combat Vehicles.

a. Vehicle Safety Program:

(1) Operators shall inspect vehicles daily IAW an approved checklist.

(2) Failure of any major item on the checklist will remove the vehicle from service until necessary repairs are made.

(3) Operator s will wear seat belts at all times.

b. Safety Awareness: A program to motivate safe driving will include:

(1) Campaigns against driving while under the influence of drugs and alcohol.

(2) Campaign in support of seatbelt requirements.

c. Risk Management:

(1) When decisions must be made involving the acceptance of risk in the use of motor vehicles, the hazard must be identified and assessed using simple risk assessment techniques, including the use of a risk assessment worksheet. (This is risky, this isn't. This risk is great, this isn't.)

(2) After risks have been identified and evaluated to determine the degree of risk, risk reduction measures must be identified to eliminate, reduce or control the risks involved. These controls may be as substantial as writing an SOP or as simple as conducting a safety briefing or performing the operation after daybreak.

(3) The decision to perform the operation must weigh the risks of the operation against the benefits. (This risk we can live with, this we can't.)

(4) Throughout the risk management process, the three basic rules of application must be followed.

(a) No unnecessary risk should ever be accepted.

(b) Risk assessment must be made at the appropriate level of command.

(c) Risk is acceptable if risk benefits outweigh risk costs.

(d) POV Accident Prevention: Unit accident prevention program will include:

(1) Periodic training on accident causes, effects of drugs, alcohol and fatigue, vehicle equipment limitations use of seatbelts and child restraint devices.

(2) Unit inspection of motorcycles prior to summer season, holidays and long weekends, to include cyclist safety equipment such as helmet, gloves, boots and recommended leather clothing.

(3) Unit inspections of POV prior to long weekends or holidays and a vehicle light check campaign in winter.

(4) Counseling of individuals receiving citations for traffic violations.

d. *Investigation and Reporting of Traffic Accidents:* Traffic accidents will be investigated and reported in accordance with AR 385-40 and DA Pam 385-40.

C H A P T E R 10 HAZARDOUS MATERIALS COMMUNICATION

10-1. Purpose. To ensure evaluation of all hazardous chemicals produced or imported by chemical manufacturers, and the communication of hazard information to affected employees. Transmittal of information is to be accomplished by a comprehensive hazard communication program, which includes container labeling, Material Safety Data Sheets (MSDS) and employee training. Hazard communication training conducted under this chapter also applies to the general training requirement of the Hazardous Material Transportation Safety Act of 1990. Employees, both military and civilian, must be protected from the effects of exposure to hazardous chemicals and materials IAW the provisions of 29 Code of Federal Regulations Part 1910.1200, AR 385-10

10-2. Objective. Every employee, military and civilian, exposed to any hazardous chemical or material will be trained in the Hazard Communication Standard (HCS) and have access to a Material Safety Data Sheet (MSDS) or an SOP outlining health hazards, storage requirements, personal and technical protection measures, disposal methods, first aid instructions and emergency procedures. This document will be in the language of the employee.

10-3. Responsibilities.

a. Directorate of Logistics and Contracting Office will:

(1) Ensure that the correct MSDS accompanies each hazardous material shipment and provide a MSDS with each hazardous material issued.

(2) Acquire the least hazardous material instead of hazardous materials in coordination with the requester.

(3) Ensure that ordering activities submit, with purchase order documents, the latest MSDSs for locally procured hazardous chemicals and materials.

(4) Require vendors and contractors to provide MSDS with each unit of supply.

b. Industrial Hygiene Office (IHO) will:

(1) When provided through the HSMS, Logistics, Contracting and or Safety Managers review the health hazard potential of new chemicals purchased by WRAMC activities and recommend required controls to preclude exposure, including; engineering, administration controls and / or personal protective equipment (PPE).

(2) Incorporate in performance of IH surveys and evaluations a review and report to Safety and supervisors on the status of activity HC programs.

(3) Upon request of Safety Manger(s) provide review of MSDS for health hazards and controls presented by hazardous materials and determine the need for qualitative or quantitative evaluation of potential exposure levels.

(4) Upon request of Safety Office assist in providing health hazard specific training for particular health hazards such as; mercury, Cadmium, Lead (Pb), Asbestos, formaldehyde, gluteraldehyde, xylene, and waste anesthetic gases, etc.

c. The Directorate Public Works will:

(1) Ensure that MSDSs are ordered, and made visible in the workplace, for all items of issue in the DPW supply system.

(2) Request the above information from manufacturers when it does not arrive with the supply items.

(3) Furnish GEO with a copy of each MSDS received.

(4) Eliminate identified workplace hazards associated with hazardous materials, which can be corrected by engineering methods.

d. The GEO manager will

(1) Manage the hazardous waste program.

(2) Manage spill prevention and cleanup programs.

(3) Inform contractors and their employees of hazards to which they may be exposed.

(4) Provide guidance relative to proper disposal of hazardous materials, substances, or waste.

(5) Conduct staff assistance visits to advise units on hazardous material container labeling and condition.

e. Civilian Personnel will:

WRAMC Pam 385-1

(1) Ensure that all work positions within WRAMC have job descriptions that include a summary of hazards, requirements for personal protective equipment (PPE), provisions for hazard communication training, and job related medical surveillance.

(2) Provide administrative support for HCS briefings to be given during new employee orientations and supervisory professional development courses.

(3) Identify civilian employees who work with or may be exposed to hazardous chemicals or materials to attend HCS briefings.

(4) Ensure, in coordination with the appropriate safety office, that baseline, periodic and final physicals are given and documented.

f. Military Personnel will ensure that soldiers who are employed in potentially hazardous environments will receive regular physicals, with documentation provided in the soldier's OPF.

g. *Installation Safety Office will:*

(1) Develop, coordinate and disseminate command hazard communication policy and guidance to safety offices.

(2) Provide technical guidance on hazard communication, to include development of bi-lingual SOPs from MSDSs on specific chemicals and materials used on WRAMC Installation.

(3) Provide MSDSs to safety offices upon request.

(4) Maintain close coordination with DOL, DPW, CPO, the Union Representative, and Preventive Medicine on the implementation of the Hazard Communication System.

h. *AFIP, WRAIR and MED CENTER Hospital Safety Offices will:*

(1) Conduct job hazard analyses and Standard Army Safety and Occupational Health Inspections (SASOHI), as required, to identify hazardous materials hazards in the workplace.

(2) Provide technical assistance for corrective measures (for example engineering controls, personal protective equipment (PPE))

(3) Provide periodic HCS training for all employees exposed to hazardous materials in the workplace by integrating the DOD HAZCOM Standard into new supervisor training and other employee orientations.

(4) Monitor operations in the workplace for compliance with the HCS program, to include the posting of hazard symbols and HCS SOPs and the adequate training of exposed employees.

(5) Ensure that emissions of hazardous chemicals are monitored periodically to determine that officially established concentrations are not exceeded.

i. *Supervisors will:*

(1) Submit work requests to correct identified hazardous materials related deficiencies.

(2) Ensure position descriptions are accurate and reflect potential hazardous material work exposure.

(3) Identify personnel who work with or may be exposed to hazardous chemicals or materials.

(4) Ensure personnel who work with or may be exposed to hazardous chemicals or materials are given baseline, periodic and final medical examinations.

(5) Ensure HCS training is conducted and individuals are briefed on proper use and handling of hazardous chemicals and materials in their workplace.

(6) Maintain an inventory of hazardous chemicals or materials in the workplace.

(7) Ensure HMIS data, MSDSs (or host nation equivalent data on chemicals) or SOPs are available in the work area for all hazardous materials used, transported or stored.

(8) Ensure personnel are provided and use prescribed PPE.

(9) Ensure substances are properly labeled.

(10) Ensure that work areas are properly posted with appropriate hazard symbols.

j. *Civilian Employees Representatives designated and trained from each directorate will:*

(1) Be appointed on orders.

(2) Provide hazard communication training to DOD personnel within their respective directorates. Accomplish HazCom training using the train-the-trainer concept.

(3) Train their replacement as required.

k. *Employees will:*

(1) Become familiar with, and follow, the provisions of the MSDS or SOP governing the materials.

(2) Comply with worker protection requirements, including the wearing and maintaining of required PPE.

(3) Report suspected unsafe or hazardous work situations to the supervisor.

10-4. Procedures.

a. Safety offices performing SASOHIs will identify hazard chemicals and materials manufactured, stored and used. SASOHI findings must be integrated with industrial hygiene surveys to discover which hazardous chemicals, materials; work locations and personnel will be included in the HCS.

b. All users of hazardous chemicals and materials will update HMIS information or MSDS files when supplies or products change. Contractors officers will require MSDSs or host nation equivalents be provided with each unit of supply for all locally procured hazardous materials or chemicals.

c. Otherwise a DD Form 2521 or 2522 (DOD Hazardous Chemical Warning Label) or equivalent is to be affixed to all hazardous chemical containers, tanks and vats.

d. All personnel who work with or may be exposed to hazardous chemicals or materials will receive a WRAMC briefing as outlined in AR 385-10. Attendance should be documented on DD Form 1556 (Training Request form). The individual trained should retain a copy of the form; another should be put into the individual's OPF. DD Form 1556 will be retained for 30 years after the individual separates from the Army or leaves the government position. The safety office responsible for training will also maintain records of individuals trained indefinitely.

CHAPTER 11 RECREATIONAL SAFETY

11-1. Purpose. Accidents involving sports activities rank second only to POVs as the major cause of accidental injury in the Army. An effective recreational safety program, to include water safety, is required to reduce recreational accidents.

11-2. Objective. Commanders, individual soldiers and civilians will place increased emphasis on safety in sports and recreational activities, resulting in reduced injuries.

11-3. Responsibilities.

a. The Installation Safety Office will disseminate information and guidance to on current developments in sports and recreational accident prevention.

b. *AFIP, WRAIR and WR Hospital Safety Offices will:*

(1) Provide recreational safety guidance as part of seasonal safety promotional campaigns.

(2) Update lists of authorized water bodies in the local community by 1 May of each year.

c. *MWR and other recreation-related activities will* coordinate with the local safety office prior to approving or selecting pools, lakes or other recreational facilities.

d. *U.S. military and civilian personnel assigned to WRAMC will:*

(1) Wear an approved bicycle helmet while operating a bicycle on-post.

(2) Wear a reflective vest while jogging or bicycling on-post during hours of darkness.

(3) Comply with all WRAMC recreational policies during recreational activities.

C H A P T E R 12

SAFETY PROGRAM EVALUATION AND INSPECTION PROCEDURES

12-1. Purpose. AR 385-10 requires safety program evaluations and inspections. They are performed to ensure that WRAMC and have a comprehensive, integrated and effective safety program and provide a safe and healthful working environment for employees.

12-2. Objective. The safety and accident prevention programs of subordinate commands will be evaluated IAW the CIP Policy Memorandum. Assistance will be provided to correct deficiencies and improve weak program areas.

12-3. Responsibilities.

a. The Installation Safety Office will:

(1) Provide safety procedures, policy, and guidance as directed by MEDCOM for the installation.

(2) Develop an inspection checklist to be used in CIP and other evaluations of WRAMC safety programs.

(3) Provide evaluation and inspection criteria to each safety specialist prior to the evaluation or inspection.

(4) Perform an evaluation of each tenant activity safety program IAW the Installation Memorandum of agreement and AR 385-10.

(5) Provide a report of each evaluation to commanders.

(6) Perform evaluations or inspections at the direction of the Commander.

(7) Perform inspections IAW the Organizational Inspection Program (OIP).

(8) Provide technical assistance to safety liaisons, and tenant safety offices to correct deficiencies and to improve weak program areas.

b. The CDSO's specific duties include:

(1) Quarterly Safety Inspections

(2) Accident investigations

(3) Safety Training

(4) Risk management/Analysis

c. *AFIP, WRAIR and Hospital Safety Offices will:*

(1) Develop safety programs as required by AR 385-10 and this regulation.

(2) Prepare for evaluations and inspections by comparing their safety program against the provided checklist.

(3) Correct deficiencies and improve weak program areas identified during evaluations and inspections.

(4) Request assistance from the Safety Office, when necessary, to correct deficiencies or make program improvements.

d. *Supervisors will:*

(1) Conduct periodic safety inspections. A minimum of one safety inspection must be conducted quarterly.

(2) Report all safety violations to the appropriate safety office.

(3) Maintain Log on all safety inspections conducted, to include findings and corrective action taken.

12-4. Procedures.

a. Safety program evaluations will be announced at least six weeks in advance.

b. Safety program evaluations will be conducted IAW the CIP Policy Memorandum and checklist.

c. Each supervisor should develop a unique checklist to assist in the safety inspection within his/her organization. The checklist should contain a list of general safety matters and items that apply to the specialized activities within his/her operation. As inspections are performed and new potential hazards are discovered, the checklist should be modified to include them. This will keep the checklist constantly current.

d. After a few inspections a supervisor will have valuable information available for use in safety training and orientation of newly assigned personnel. Safety hazards that were not known to exist will be discovered and eliminated. Soon the goal of reducing accidents to a minimum will be reached, and the supervisor will maintain better control over potential hazard areas

C H A P T E R 13 PERSONAL PROTECTIVE EQUIPMENT (PPE)

13-1. Purpose. Personal protective equipment (PPE) is provided to protect the workforce from hazards, which cannot be engineered out of the environment. PPE is essential to all operations which are inherently hazardous, which easily become hazardous by unsafe acts of personnel, or which are made such by existing conditions such as temperature, visibility, noise, ventilation, illumination or radiation. When properly worn, the PPE will prevent or reduce the severity of injuries.

13-2. Objective. Each hazardous area and occupation will be identified to determine the major work hazard or health risks involved and the PPE required. The PPE will be provided by the employing organization at no cost to the employee. Once PPE is provided and assigned for a specific operation, its use by the employee will be mandatory.

13-3. Responsibilities.

a. The Safety Office will:

(1) Establish an effective command-wide PPE program in coordination with the respective safety offices and the Union representative.

(2) Maintain a list of required PPE items for selected occupations.

(3) Ensure that each physical operation has been analyzed to determine hazards and the need for PPE.

(4) Review purchase requests, if necessary, for PPE to ensure that the equipment will adequately reduce the hazard or risk to the employee.

(5) Ensure that each identified hazardous area is conspicuously marked for the hazards or health risk involved and the PPE required.

(6) Set an example by complying with PPE requirements when present in a work area.

b. The Industrial Hygiene Office will:

(1) Determine the appropriate type of respiratory protective equipment and devices based on known or anticipated respiratory hazards to include its frequency of use, quantity used, how it's used and generated and other available controls available.

(2) Upon request from the Safety Office, provide information and technical consultation on the use and selection of all other forms of skin and eye protection.

(3) Incorporate in IH Surveys and evaluations an evaluation of the type, condition, availability and use of PPE and report results of such evaluations to the Safety Office.

c. Supervisors will:

(1) Ensure that each physical operation performed by subordinates is analyzed by Safety and/or Industrial Hygiene personnel to determine hazards and the need for PPE.

(2) Ensure that all areas designated for use of PPE are conspicuously posted as appropriate at the entrance, indicating the type of PPE required to be used. Non-permanent workplaces will be posted with transportable symbol signs.

(3) Ensure that personnel not having or wearing the required PPE will not be allowed into the posted area. (If it is necessary for such a person to enter the area, then work must be stopped or the hazard requiring PPE must first be removed.)

(4) Provide training to subordinate personnel on the care, maintenance and use of PPE placing special emphasis on the introduction of new items. Verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, date and type of training.

(5) Set an example by wearing PPE in required areas.

(6) Enforce requirements for the utilization of PPE, including protective guards on machinery. Disciplinary action should be initiated against any employee who refuses to wear required PPE.

(7) Establish an inspection schedule for PPE based on the various types of equipment involved, national standards, operation size, and the amount of equipment use.

(8) Prevent misuse of PPE.

(9) Ensure an adequate supply of PPE by stocking 5% to 10% over stock required for use. At least two items/pairs of each size of authorized PPE will be on stock if 10% is less than two items.

(10) Ensure that complaints from employees regarding the wearing of PPE are promptly and thoroughly investigated and that required repairs are made without delay.

(11) Ensure that restrictions or requirements for PPE are included in job descriptions, in coordination with CPO and the UNION.

(12) Ensure that sealed 16-unit first aid kits are available in the ratio of one for each 25 persons employed and that dressing material for minor injuries is available.

d. *Employees will:*

(1) Wear safe everyday work attire that will avoid unnecessary risk. This will be considered a condition of employment. Where analysis has indicated specific articles or kinds of attire may be hazardous when worn (e.g. rings, jewelry, etc.), their use will be prohibited. If necessary, long hair will be secured and/or covered.

(2) Wear and maintain required PPE.

13-4. Procedures.

a. The preferred method of hazard abatement is engineering the hazard out of the environment rather than to provide PPE. If engineering controls are not feasible, PPE may be required.

b. The appropriate operator's manual will be consulted for all machinery, power tools and electrical appliances prior to the operation, to ensure the appropriate PPE is available. (Personnel working with hazardous chemicals and materials will utilize the PPE required on the appropriate MSDS).

c. Required items of PPE will be furnished without cost to the employee and soldier.

d. Pre-employment and pre-placement physical examinations will include determination of the individual's ability to wear required PPE.

e. PPE will be ordered on priority PD:02. Safety footwear and prescription safety eyewear will be issued to military and permanent civilian personnel as no recoverable property. Nevertheless, these items are still accountable, and as such must be turned in upon departure of the employee or determination that the PPE is unserviceable.

f. Disabled employees, (as demonstrated by an official document, and accepted by the respective safety office and the command representative for the handicapped) will wear PPE if required for their work place. If normal PPE cannot be worn, specially produced PPE must be purchased for such cases. In no case will handicapped employees be released from wearing PPE.

g. PPE that does not meet the American National Standards Institute (ANSI). No person (Military, Civilian or Visitor/Inspector) will enter or work in an hazardous area without wearing the appropriate PPE.

h. Severity allowances are not a substitute for PPE and have no protective effect. It is the responsibility of the supervisor, in coordination with the respective safety office (and the works council for local national employees), to justify undue discomfort or stress.

i. Special protective devices (e.g., devices issued with special equipment IAW pertinent technical manuals/publications) will be worn by employees when using that special equipment.

j. The following PPE will be worn during all operations utilizing lawn mowers, edgers, weed-eaters, hedge trimmers, etc: ear protection, eye protection, gloves, long pants and boots.

CHAPTER 14 CONFINED SPACE ENTRY PROGRAM

14-1. Purpose. Prescribes responsibilities, policies, and procedures for conducting operations in confined spaces.

14-2. Purpose. Exposure of unprotected personnel to hazardous environments in confined spaces can cause death, serious injury, or acute illness. All entry by personnel into confined spaces will be conducted in conformance with the requirements in 29 CFR 1910.146, Permit Required Confined Spaces, and this standard operating procedure.

14-3. Responsibilities.

a. Directors/Commanders conducting confined space operations will:

(1) Implement a confined spaces entry program, which meets the requirements of 29 CFR 1910.146.

(2) Provide training for all personnel involved in confined spaces operations, e.g. supervisors, entrants, attendants and rescue personnel, to ensure they acquire the understanding, knowledge, and skills necessary for the safe performance of their duties. Document the training in the Official Personnel Record.

(3) Organizations, which do not routinely conduct-confined spaces operations, will contact DPW prior to beginning such an operation.

(4) Provide all necessary personal protective equipment and rescue equipment, and ensure it is used. DPW will loan necessary equipment to DOL when requested. Minimum equipment requirements are as follows:

- (a) Testing and monitoring equipment.
- (b) Ventilating equipment.
- (c) Communications equipment.
- (d) Personal protective equipment.
- (e) Lighting equipment.
- (f) Barriers and shields to protect pedestrians and vehicles.

(g) Equipment for entry and exit.

(h) Rescue and emergency equipment

b. *The Safety Office will:*

(1) Develop the installation Confined Space Entry Program (CSEP).

(2) Assist organizations with implementation of the CSEP.

(3) Monitor compliance during regularly scheduled inspections.

(4) Receive calls concerning confined spaces accidents. Provide appropriate emergency response for all confined spaces accidents.

(5) Act as Accident Scene Coordinator for all confined spaces accidents.

(6) Ensure all rescue team personnel receive ongoing training in confined space accident response.

(7) Approve confined space permits. (Appendix f)

(8) Provide training and support to organizations in the procurement and use of personal protective equipment and atmospheric monitoring equipment.

c. *Industrial Hygiene will:*

(1) Assist organizations with implementation of the confined space entry program.

(2) Conduct necessary medical tests (Occupational Health); fit tests and training to ensure entrants and attendants can utilize necessary respirators for operations and emergencies.

(3) Assist organizations with selection of personal protective equipment to be used in situations where the toxic atmosphere cannot be completely removed or the potential for development of a toxic atmosphere exists.

(4) Certify proficiency in calibration and use of monitoring equipment.

d. *Director of Department of Contracting (DOC) will:*

(1) Inform contractors performing work in permit required confined spaces:

(a) That the workplace contains permit spaces and entry is allowed only through compliance with a permit space program, which meets OSHA requirements.

(b) The elements, including the hazards identified and the installation's experience with the space, which make the space in question a permit space.

(c) Of any precautions or procedures that have been implemented.

(d) Coordinate entry operations with the contractor when both installation and contractor personnel will be working in or near space.

(e) Debrief contractor at conclusion of entry operations regarding the permit space program followed and any problems encountered.

(f) Ensure requirements for work in confined spaces are included in all solicitations and contracts where such work will be required.

e. Directors of DPW, DOL, DCA, and DOIM involved in preparing or administering contracts involving confined spaces will:

(1) Inform DOC of any construction, maintenance or service contracts, which will involve entry into, permit required spaces. Include confined space requirements in contracts as appropriate.

(2) Monitor contractor compliance with confined spaces entry requirements.

f. Entry supervisors will:

(1) Be familiar with hazards that may be faced during entry, including information on the mode, signs or symptoms of the exposure.

(2) Verify, by checking that the appropriate entries have been made on required permits, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before signing the permit and allowing entry to begin. Post atmospheric test results on the permit at not more than 2-hour intervals.

(3) Terminate the entry and cancel the permit when the entry operations covered by the permit have been completed or a condition not allowed under the entry permit arises in or near the permit space.

(4) Verify that rescue services are available and the means for summoning them are operable.

(5) Remove unauthorized individuals who attempt to enter the permit space during entry operations.

(6) Determine, whenever responsibility for a permit space entry operation is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

(7) Remain at the entry site throughout the entire entry operation.

(8) Complete Confined space evaluation form (Appendix e).

g. *Authorized entrants will:*

(1) Be familiar with the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

(2) Properly use equipment provided and required.

(3) Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to enable the attendant to alert entrants of the need to evacuate the space.

(4) Alert the attendant whenever the entrant recognizes any warning sign or symptom of exposure to a dangerous situation or the entrant detects a prohibited condition.

(5) Exit from the permit space as quickly as possible whenever:

(a) An order to evacuate is given by the attendant or the entry supervisor.

(b) The entrant recognizes any warning sign or symptom of exposure to a dangerous situation.

(c) An evacuation alarm is activated.

h. *Attendants will:*

(1) Perform no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants.

(2) Be familiar with the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.

(3) Be aware of possible behavioral effects of hazard exposure in authorized entrants.

d. Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the means used to identify authorized entrants accurately identifies who is in the permit space.

e. Remain outside the permit space during entry operations until relieved by another attendant, or permitted action is completed.

f. Communicate with authorized entrants as necessary to monitor entrant status and to alert entrants of the need to evacuate the space.

g. Take the following actions when unauthorized persons approach or enter a permit space when entry is underway:

(1) Warn the unauthorized persons that they must stay away from the permit space.

(2) Advise the unauthorized persons that they must exit immediately if they have entered the permit space.

(3) Inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space.

h. Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and order the authorized entrants to evacuate the permit space immediately under any of the following conditions:

(1) A prohibited condition is detected.

(2) The attendant detects a situation outside the space that could endanger the authorized entrants.

(3) The attendant cannot effectively and safely perform her/his duties.

i. Upon determining that entrants are in danger and need assistance, immediately notify the entry supervisor, Fire Prevention and Protection Division, DPS, and other emergency agencies as required. Under no circumstances will the attendant leave the area.

j. Initiate non-entry rescue procedures if doing so will not endanger the attendant or other personnel outside the space, and if doing so will not cause additional harm to the entrants. Under no circumstances is the attendant to enter the space.

14-4. General Permit Space Entry Type V and P.

a. *Training.* Only persons who have completed an appropriate program of instruction will be allowed to serve as supervisors in charge of entry, entrants, attendants, rescue personnel, or to certify a space as safe for entry. Initial training before the employee is first assigned duties in confined spaces is required. Refresher training is required before there is a change in assigned duties, a change in permit space operations, whenever the employer has reason to believe that there are deviations from the permit space entry procedures or inadequacies in the employee's knowledge or use of the procedures. Training must include hands on practice with actual instruments, which will be used to determine atmospheric hazards. Industrial Hygienist will certify individuals as proficient in instrument operation and calibration. It is each organization's responsibility to schedule, procure and fund this training.

b. *Controls.* Organizations which have control over permit required confined spaces will, when feasible, post danger signs which indicate the location and danger posed by the permit space.

c. *Permits.* Permits are required for entry into all type V and P spaces. The permit is to be completed and signed by the entry supervisor. The permit will be maintained at the site until the job is complete. After completion of the job the permit will be maintained in appropriate files for one year. The permit is valid only for the duration of the particular job. Blanket permits that cover multiple operations throughout a year will not be used.

d. *Hot Work.* If hot work such as welding, brazing, sanding or any other procedure, which will cause a source of ignition, will be done in the space, the Fire Prevention and Protection Division, DPW must issue a Hot Work Permit prior to completion of the permit. WRAMC Form for Confined Spaces Entry Permit, or an equivalent commercially available permit may be used.

14-5. Procedures, Type V Permit Required Spaces.

- a. Initial documentation. To classify as a type V permit space the following are required:
- b. Demonstration and documentation that the only hazard posed by the permit space is an actual or potential hazardous atmosphere, and that continuous forced air ventilation alone is sufficient to maintain the space safe for entry. Monitoring and inspection data must substantiate the claim of being a type V space.
- c. If an initial entry of the permit space is necessary to obtain the data required, the entry will be performed in accordance with requirements for type P permit required spaces.
- d. The supervisor in charge of entry shall verify that the space is safe for entry and that the measures required in this section have been taken. Written certification utilizing the confined spaces entry permit is required.
- e. The documentation and data must be provided to all personnel involved in the entry.

14-6. Entry requirements.

- a. Entry into a type V permit required space would be performed in accordance with the following requirements:
- b. Any conditions making it unsafe to remove an entrance cover shall be eliminated before it is removed.
- c. When entrance covers are removed, the opening shall be promptly guarded by a railing, temporary cover, or other temporary barrier that will prevent an accidental fall through the opening and that will protect each employee working in the space from foreign objects entering the space.
- d. Before an employee enters the space, the internal atmosphere shall be tested, with a calibrated direct reading instrument, for the following conditions in the order given. There may be no hazardous atmosphere within the space whenever any employee is inside the space. Any employee who enters the space, or that employee's authorized representative will be provided the opportunity to observe the pre-entry testing. The space will be reevaluated if an employee or representative believes the prior evaluation was not adequate.

Continuous monitoring with an instrument, which provides a visual and audible warning, will be performed whenever the space is occupied. If the space is vacated it will be retested prior to reentry. Results of atmospheric testing will be posted on the permit at not more than 2 hour intervals.

- (1) Oxygen content.
- (2) Flammable gases and vapors.
- (3) Potential toxic air contaminants.

e. Continuous forced air ventilation shall be used as follows:

- (1) An employee may not enter the space until the forced air ventilation has eliminated any hazardous atmosphere.
- (2) The forced air ventilation shall be so directed as to ventilate the immediate areas where an employee is or will be present within the space and shall continue until all employees have left the space.
- (3) The air supply for forced air ventilation shall be from a clean source and may not increase the hazards in the space.

f. Hot work or work which introduces hazards, e.g. flammable or toxic substances is not permitted in these spaces.

g. If a hazardous atmosphere is detected during entry, each employee will leave the space immediately, the space shall be evaluated to determine how the hazardous atmosphere developed, and measures shall be implemented to protect employees from the hazardous atmosphere before any subsequent entry.

h. Electric equipment used in these spaces will be explosion proof.

i. Every effort will be made to ensure two qualified personnel are present during entry. One shall remain outside the space and be immediately available to render emergency assistance as may be required. If this is not possible, in situations where it is determined by the entry supervisor that a single worker can do the work safely, a check in system will be implemented. The system requires periodic radio contact between the worker and the entry supervisor at specified intervals, e.g. 10 minutes. If contact cannot be made the entry supervisor will contact the Fire Prevention and Protection Division for rescue.

14-7. General procedures, Type P Permit Required Spaces.

a. Entry into type P permit spaces will not be initiated until all requirements have been met and the permit has been completed and signed.

b. All spaces will to the extent possible be purged, inerted, flushed, or ventilated prior to entry to eliminate or control atmospheric hazards. If toxic atmospheres cannot be eliminated or the potential of development of a toxic atmosphere exists appropriate personal protective equipment will be used.

c. All actual and potential energy sources and sources of hazardous materials will be locked out, blanked etc. prior to entry.

d. Pedestrian, vehicle, or other barriers will be provided as necessary to protect entrants from external hazards.

e. Permit space conditions will be evaluated as follows when entry operations are conducted.

(1) Conditions in the space will be tested to determine if acceptable entry conditions exist before entry is authorized, except that, if isolation of the space is infeasible because the space is large or is part of a continuous system (such as a sewer) pre-entry testing shall be performed to the extent feasible before entry is authorized. The atmospheric tests will be conducted with a calibrated direct reading instrument, for the following conditions in the order given: oxygen content, flammable gases and vapors, potential toxic air contaminants.

(2) Continuous monitoring with an instrument, which provides a visual and audible warning, will be performed whenever the space is occupied. If the space is vacated, the space will be retested prior to reentry. Results of atmospheric testing will be posted on the permit at not more than 2 hour intervals.

f. At least one attendant will be provided outside the permit space into which entry is authorized for the duration of entry operations. Each attendant will monitor only one space. The attendant will have verbal communication with the entrants at all times. The attendant will have on site radio capabilities to contact emergency personnel. The attendant will not enter the space or leave the area unless relieved by another attendant.

g. To facilitate non-entry rescue, retrieval systems or methods shall be used whenever an authorized entrant enters a permit space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant.

Retrieval systems shall meet the following requirements:

(1) Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level or above the entrant's head. Wristlets may be used in lieu of the chest or full body harness if it can be demonstrated the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.

(2) The end of the retrieval line shall be attached to a mechanical device or fixed point outside the permit space in such a manner that rescue can begin as soon as the rescuer becomes aware that rescue is necessary. A mechanical device shall be available to retrieve personnel from vertical type permit spaces more than 5 feet deep.

h. Rescue equipment to include a supplied air respirator with a mask sized to fit the attendant will be maintained at the site.

i. If an injured entrant is exposed to a substance for which a MSDS is required to be kept at the worksite, the MSDS shall be made available to the medical treatment facility.

j. Entry operations will be reviewed when there is reason to believe that the measures currently in use may not protect employees and the program will be revised prior to subsequent entries being authorized.

k. Electrical equipment used in these spaces, e.g. work lights, flashlights, will be explosion proof.

CHAPTER 15 ELECTRICAL SAFETY PROGRAM

15-1. Purpose. To provide Walter Reed Army Medical Center (WRAMC) and contractor personnel with guidance to prevent injury from electrical hazards that cannot be completely isolated by lockout/tagout (LO/TO) and to establish the Electrical Safety Program.

15-2. Objective. This chapter applies to all military, civilians, and contractor personnel assigned or attached, to WRAMC installation property to include Forest Glen and Glen Heaven (collectively referred to in this memorandum as WRAMC) who may be potentially exposed to electrical hazards in the workplace. It is primarily directed at work under 600 volts.

15-3. Background.

a. Electricity is the most versatile and widely used energy form. All industrial operations, work places, stores, and homes require large amounts of this available power. However, when this power source is abused, the results may be property damage or personal injury.

b. Recent studies show that 31% of all reported fatal electrical accidents occur in the home, 34% in the work place, and the remaining in the production and distribution of power. This means that 65% of all fatalities are due to sources of electricity fewer than 600 volts. This is the so-called low voltage source.

c. The severity of the shock and possible electrocution depend on:

(1) Amount of current

(2) Path through the body

(3) Time of contact

(4) Other items such as frequency, phase of the heart cycle, and general health of the individual.

d. In addition to shock and electrocution, the following causes and injuries can occur when contact is made with electricity.

(1) Indirect Falling, Banging, Lacerations.

(2) Burns -- Electrical, Arc, Contact.

(3) Explosions -- Equipment, Body Parts.

15-4. Policies.

a. The first line of injury prevention from electrical hazard is lockout/tagout (See Chapter 18). However, when that is not possible, additional precaution shall be taken as described herein.

b. Only fiberglass (plastic) or wooden portable ladders will be used in association with electrical work, in accordance with OSHA Standard 29 CFR 1910. The use of metal ladders is prohibited.

c. Any work within 10 feet of exposed energized Power Transmission and Distribution equipment, or within the perimeter fence of high voltage substations, requires a qualified person or the direct supervision of a person so qualified.

15-5. Work Practices.

a. The following work practices apply to all WRAMC and contractor personnel working on or near equipment that poses an electrical hazard. Additional requirements are contained in 29 CFR 1910.269 for power transmission and distribution (see Appendix f).

b. Before maintaining or repairing electrical equipment, disconnect from the power source and follow lockout/tagout procedures. After power disconnection, lock/tag appropriate switches or other devices in accordance with lockout/tagout procedures. If the circuit cannot be locked out, take a secondary step such as removing the fuse, in addition to tagging the switch. After de-energizing the circuit, verify the electricity is indeed disconnected through measurements, attempted activation of equipment, or other means.

c. Use only rated-load switches or circuit breakers to disconnect electric power and lighting circuits. Employees (other than electrical workers) may reset a tripped single-pole convenience outlet or lighting circuit breaker one time, provided it is not located in a designated emergency panel and when, based on their knowledge, it is safe to do so. If the circuit breaker trips again, contact supervision so an appropriate response can be authorized and initiated.

d. Do not use electrical cords to raise or lower equipment.

- e. Do not use any equipment that has frayed cords or three wire cord ends that have had the grounding prong removed.
- f. Use the proper power receptacle for each application. Do not bend cord-end prongs to fit the wrong receptacle.
- g. Use only wood or fiberglass ladders, never metal, when working on or near live electrical equipment.
- h. Do not wear wire/metal rimmed glasses, rings or other jewelry, or other conductive apparel when working on live electrical parts.
- i. Avoid temporary wiring. Use appropriate ground fault circuit interrupters with any temporary wiring.
- j. Unplug all portable electrical hand tools when not in use.
- k. Use only double insulated extension cords.
- l. Use ground fault circuit interrupters (GFCI) in wet or damp areas or if grounded by pipes, tanks, etc.
- m. Inspect extension cords and cords on electrical equipment before each use. Do not use equipment or extension cords with damaged wiring or missing plug prongs until the damage is repaired to its original quality.
- n. Do not endanger self or others by attempting to rescue shock victims. De-energize the circuit immediately if the victim is still in contact with electrical energy. If not possible to de-energize the circuit, only trained and qualified, knowledgeable employees should attempt to remove the victim. *NOTE:* All electrical shocks are medically serious regardless of the voltage. Even if the victim shows no apparent signs of injury, he/she shall be seen by a qualified health care professional.

15-6. Live Equipment.

- a. Only qualified persons are allowed to work on or near live equipment. Work on or near live equipment is only permitted when it is impossible to shut off equipment or circuits or when de-energizing the equipment would introduce additional or increased hazards, or is infeasible due to equipment design or operational limitations.
- b. Employees must remain alert at all times when working near exposed electrical parts or in situations where electrical hazards may exist.

Employees must never reach blindly into areas that may contain live circuits. If alertness is recognizably impaired due to illness, fatigue, or other reasons, the employee shall not be permitted to work in areas containing electrical hazards.

c. Employees must not enter an area containing exposed electrical circuits unless adequate illumination is provided. When illumination or obstructions affect visibility and the employee can contact the exposed circuits or equipment, the employee is not permitted to perform the task.

d. Employees shall not wear conductive apparel (e.g., watches, rings, bracelets, key chains, necklaces, metalized aprons, cloth with conductive thread, metal head gear), if contact with exposed circuits or equipment could occur. This includes wire or metal-rimmed eyeglasses.

e. Conductive material and equipment in contact with an employee's body must be handled carefully so that he/she does not come in contact with exposed conductors. Conductive material and equipment includes, but is not limited to ducts, pipes, tubes, conductive hoses or ropes, metal-lined rules and scales, and steel tapes or chains.

f. Suitably insulated tools and/or handling equipment shall be used when working near exposed energized conductors or circuit parts where it is possible for these items to make accidental contact with the conductors or parts. The insulating materials on these items must be protected during storage or transportation. When removing or installing fuses from an energized fuse terminal, use fuse handling equipment capable of withstanding the circuit voltage. GFCI protectors shall be used at all sites where employees use portable electric equipment. A GFCI must be located between the power source and the tool.

g. Protective shields, barriers, or insulating material must be used to protect employees from exposed energized parts which might be accidentally contacted or where dangerous electric heating or arcing is likely to occur.

h. Use of metal ladders or ladders which have metal longitudinal (top to bottom) reinforcement is forbidden when working on or near exposed energized parts.

i. When work is performed in a confined or enclosed space such as a manhole or vault, precautions to avoid contact with the energized part are required and must be in accordance with WRAMC, Confined Space Program. An example of avoiding contact could be securing a swinging door to prevent being inadvertently knocked into energized circuits.

j. Employees must avoid contact with energized overhead lines, either with a body part, a conductive material, a tool, or a piece of equipment. If contact with energized overhead lines is possible, the lines shall be de-energized, guarded, or insulated. These precautions must be taken before work in the area begins. If the lines cannot be de-energized or guarded, employees must maintain a safe distance from the conductors.

k. Housekeeping and custodial duties shall not be performed adjacent to energized parts where such parts present an electrical contact hazard. Cleaning materials such as water, steam, conductive cleaning fluids, steel wool, metalized cloth or silicon carbide shall not be used in the proximity of energized parts.

15-7. Extension Cords.

a. Because electrical accidents are often related to the use of faulty or incorrectly repaired extension cords, additional attention must be paid to their use. Oftentimes, the male end of the extension cord is often damaged or altered in some manner that renders the grounding path useless.

b. Repair work often results in the hot and ground (neutral) wires being interchanged. This can energize the metal case of tools or equipment. If used in this condition, fatal accidents can occur when the user supplies the path to the ground through their body.

c. New extension cords must also be tested because of potential reverse polarity. The following procedure will be used for testing extension cords:

(1) Prior to testing the cord, test the receptacle to which the cord will be inserted for polarity.

(2) Plug the extension cord into the power supply (receptacle) that was previously tested.

(3) Plug the circuit tester into the extension cord.

(4) The light code indicated on the circuit tester should be the same as when plugged into the power supply.

d. Extension cords used in the industrial setting will be inspected and tested upon purchase and after a repair has been made. Repairs can only be accomplished by a qualified person and the cord restored to its original condition.

15-8. Personal Protective Equipment (PPE).

a. Nonconductive head protection, consistent with the potential contact voltage hazard, must be worn where there is danger of head injury from electric shock, burns, or flying or failing objects resulting from an electrical explosion.

b. Safety glasses or face shields, which are rated for UV protection, must be worn where there is a danger of injury to the eyes or face from electrical arcs or flashes, or from flying or failing objects resulting from electrical explosion. (Do not wear metal frame eyeglasses when working on energized systems).

c. Insulating rubber gloves and glove protectors, sleeves, line hoses, blankets, hoods, and mats must be used, as required, to protect the hands and other parts of the body where there is a danger of injury from contacting energized parts.

d. Steel-toed safety shoes must be in good condition when worn in the vicinity of exposed energized circuits (i.e., no exposed steel on the shoes). Only safety shoes with fiber-reinforced toe protection should be worn when working on energized systems of 480 volts or greater.

15-9. Training.

a. All employees shall be trained in the safe work practices outlined in this memorandum on an annual basis.

b. Unqualified Persons will be:

(1) Trained in and familiar with any electrical safe practices.

(2) Trained in the safe distances from overhead lines when working near overhead lines.

c. Qualified Persons will be:

(1) Knowledgeable on local Lockout/Tagout procedures.

(2) Trained in the safe approach distances to exposed energized parts (see Appendix c).

(3) Trained in the safe approach distances for vehicles operating in the proximity of overhead power lines.

- (4) Aware of the determination of proper illumination in work area.
 - (5) Knowledgeable on the hazards associated with confined spaces, and
 - (6) Trained on portable ladder safety.
- d. All training will be documented in Employee Safety and Health Training Record.

15-10. Responsibilities.

a. Installation Safety Office will:

- (1) Administer the Electrical Safety Program.
- (2) Conduct an annual review of the program.
- (3) Assist in training of employees that work on or near live electrical circuits.
- (4) Ensure that employees receive the necessary training to perform their job safely.
- (5) Ensure PPE complies with applicable standards.

b. Supervisors will:

- (1) Ensure sufficient and proper PPE is available for employees.
- (2) Ensure employees have been properly trained.
- (3) Ensure employees follow all electrical safe work practices.
- (4) Conduct spot checks and inspections to enforce electrical safety practices are being followed (See Appendix g).

c. Employees will:

- (1) Attend and participate in all training classes.

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(2) Report unsafe work practices to supervisor using the DA 4755, Employee report of Unsafe/Unhealthy Working Condition.

(3) Perform only the task that you are trained for, knowledgeable of, equipped for, and authorized to do.

CHAPTER 16 ACCIDENT PREVENTION AWARDS PROGRAM

16-1. Purpose. The purpose of the Safety Awards program is to recognize individuals, units, divisions and or directives for contributions and enhancement to the WRAMC Safety Program.

16-2. Objective. The objective of the program is to recognize individuals units, divisions and or directives for outstanding accident prevention efforts and acts.

16-3. Responsibilities.

a. Commanders are required to establish a safety awards program to include provisions for impact awards. Criteria for specific WRAMC awards are outlined in the following sections.

b. Supervisors or directors will nominate employees or units for safety awards based on their overall noteworthy contribution to accident prevention.

16-4. Procedures and Types of Awards.

a. *Unit awards:*

(1) Chief of Staff, Army, MACOM Safety Award Plaque. This plaque is awarded by the Chief of Staff, Army (CSA), to MACOMs for significant improvement in major accident areas. Criteria, policies, and procedures are outlined in AR 672-74, paragraph 2-1.

(2) DA Form 5757 (Director of Army Safety Award). This award is presented by the DASAF to units for significant improvement in their safety record. Criteria, policies, and procedures are outlined in AR 672-74, paragraph 2-2.

(3) Award of Excellence in Safety Plaque. This plaque is awarded by MACOM commanders to units for a 3-year, accident-free record. Criteria, policies, and procedures are outlined in AR 672-74, paragraph 2-3.

(4) DA Form 5758 (Army Accident Prevention Award of Honor in Safety). This award is presented by MACOM commanders to units for a 2-year, accident-free record. Criteria, policies, and procedures are outlined in AR 672-74, paragraph 2-4. DA Form 5758 is available through normal publication supply channels.

(5) DA Form 5775 (Army Accident Prevention Award of Accomplishment in Safety). This award is presented by MACOM commanders to units for an accident-free year.

Criteria, policies, and procedures are outlined in AR 672-74, paragraph 2-5. DA Form 5775 is available through normal publication supply channels.

(6) DA Form 5776 (Commander's Special Safety Award). This award is presented by MACOM commanders to units for exemplary safety performance. Criteria, policies, and procedures are outlined in AR 672-74, paragraph 2-6. DA Form 5776 is available through normal publication supply channels.

b. Individual awards are as follows:

(1) Chief of Staff, Army, Award for Excellence in Safety Plaque. This plaque is awarded by the CSA to individuals who make significant contributions to the Army accident prevention effort. Criteria, policies, and procedures are outlined in AR 672-74 paragraph 3-1.

(2) DA Form 5777 (United States Army Safety Guardian Award). This award is presented by the DASAF to individuals for extraordinary action in an emergency situation. Criteria, policies, and procedures are outlined in AR 672-74 paragraph 3-2.

(3) DA Form 5778 (Army Aviation Broken Wing Award). This award is presented by DASAF to individuals in response to an aircraft emergency situation. Criteria, policies, and procedures are outlined in AR 672-74 paragraph 3-3.

(4) Director of Army Safety Special Award of Excellence Plaque. This plaque is awarded by the DASAF to individuals who demonstrate superior safety leadership and/or programs. Criteria, policies, and procedures are outlined in AR 672-74 paragraph 3-4.

(5) DA Form 1119-1 (United States Army Certificate of Achievement in Safety). This award is presented by commanders to individuals for specific achievements in safety as outlined in AR 672-74 paragraphs 3-5, 3-6, and 3-7. The wallet-size DA Form 1119 (United States Army Certificate of Achievement in Safety) should accompany the DA Form 1119-1 when presented to an individual. DA Forms 1119 and 1119-1 are available through normal publication supply channels.

(6) DA Form 1118 (United States Army Certificate of Merit for Safety). This award is presented to individuals and units for outstanding achievement in accident prevention as outlined in AR 672-74 paragraph 3-7. DA Form 1118 is available through normal publication supply channels.

c. Plaque awards MACOMs are responsible for purchasing plaques and inscribing the brass plate on the plaque with the unit designation and the award period (see Appendix c for specifications), and for ensuring that the cost is obtained from proper funds. The CSA and DASAF award plaques will be provided by USASC.

16-5. Tactical Safety Award.

a. An award will be presented to the division or separate brigade level commander that performs the duties of the Army Forces (ARFOR) action agent in a WRAMC, Department of the Army sponsored exercise that meets the following criteria:

(1) The exercise must have 15,000 or more troops participating in field maneuvers.

(2) No accidents resulting in fatalities of US or foreign soldiers or civilian employees under control of the US Commander may have occurred from deployment to the exercise site until redeployment from the exercise site. This includes fatalities from exercise related or non-exercise related accidents.

(3) No fatal accidents occurred as a result of actions taken by forces under the command of the exercise commander. This includes fatal civilian traffic accidents occurring as a result of collision with military vehicles.

16-6. Commander. The WRAMC Garrison Commander may, at his discretion, award a Certificate of Achievement to individuals or units for exemplary accomplishment in the field of accident prevention. Nominations should be forwarded through the Installation Safety Office to WRAMC Garrison Commander, ATTN: MCWR-DSHE-ISO, 6900 Georgia Ave, Building 11, Room 2-122, Washington, DC 20307-5001.

Chapter 17 LOCKOUT/TAGOUT

17-1. Purpose. The purpose of this regulation is to ensure that the WRAMC is in compliance with the OSHA Control of Hazardous Energy Source and with the OSHA Electrical Work Practice Standards.

17-2. Objective.

a. This Lockout/Tagout chapter applies to all supervisors and employees (military, civilian, and contract) assigned to the WRAMC. In addition, to applicable to all individuals who perform services, maintenance, installations or removal of equipment or machines, to include lines that contain hazardous energy, material or physical hazards, such as steam and electrical wiring. It does not apply to equipment that can be totally controlled by the individual performing the work, such as disconnecting a plug from an electrical receptacle and maintaining visual contact with the plug, working on a small engine, etc.

b. Contractors performing work requiring the use of LO/TO must have a written program, and must provide their own equipment (tags, locks, etc.), if the contract does not indicate the government will supply the equipment/material.

17-3. Purpose.

a. The standards given in Title 29, Code of Federal Regulations (29 CFR) are statutory, applicable to government agencies by Executive Order 12196. These standards are made Army Regulatory standards by AR 385-10 and AR 40-5. WRAMC Safety Division is thereby made accountable for compliance with all promulgated Occupational Safety and Health Administration (OSHA) standards.

b. 29 CFR 1910.147 "The Control of Hazardous Energy (Lockout/Tagout)", requires employers to establish a program and utilize procedures for affixing appropriate Lockout or Tagout devices to energy isolating devices, and to otherwise disable machines or equipment to prevent unexpected energizing, start-up or release of stored energy in order to prevent injury to employees (29 CFR 1910.147(a)(3)(I).

c. Lockout is the preferred method of isolating machines or equipment from energy sources. New equipment or modification to existing equipment will be installed with lockout capability, to assist the supervisor in complying with the requirements of the standard; the following procedure is provided for use in either lockout or tagout programs.

17-4. Procedures.

a. All equipment, machines or lines on which work is being performed will be under LO/TO where the unexpected energization or start-up of equipment/machines or the release of stored energy could cause injury.

b. It is the policy at WRAMC to use approved locks as the means of ensuring that equipment, machines or lines will not unexpectedly be energized. Tags will only be used when it is not possible to use a lock. Devices that allow for locking will be used to the maximum extent possible. If tags must be used, the tags and connecting line will be able to withstand the environmental conditions in the workplace.

c. Only the person who installs the LO/TO device can remove it; however, under extreme circumstances an exception exists as indicated in paragraph 7i.

d. Hot-tap for electrical work will not be routinely used, and must be approved by the supervisor prior to initiation.

e. Push buttons, selector switches, and other circuit-type devices are not energy isolating devices for that piece of equipment/machine.

f. Locks will be distinctive in color, and uniform, when used within or by a specific organizational element (Directorate of Public Works (DPW), Directorate of Logistics (DOL), etc.), and the tags will contain the information as reflected on the examples identified in Appendix h. The tags will only be used for the LO/TO program. The tags will not be used as a caution or "do not use" tag.

g. Capable of being locked out. Energy-isolating devices that can be locked out, and are designed so that a lock can be affixed to prevent its operation or activation.

h. Contractor/subcontractor. Outside vendors retained for a particular term or scope of work.

NOTE: Long-term contractors/subcontractors will use this chapter for LO/TO as their basic guidance document, and will develop specific procedures as described in Appendix

i. Energized. Any device connected to an energy source or containing potential for residual or stored energy.

j. Energy isolating device. A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following:

- (1) A manual operated circuit breaker.
 - (2) A disconnect switch.
 - (3) A manually operated switch by which the conductors or circuit can be disconnected.
 - (4) A line-valve or block or any similar device used to block or isolate energy.
- k. Energy source. Any source of energy including electrical, mechanical, hydraulic, pneumatic, chemical or thermal.
 - l. General employee. A general employee is a person whose workplace is within an area where LO/TO is performed.
 - m. Group LO/TO. When more than one employee, to include the same or different crafts, is involved in the same servicing/ maintenance/installing/removing equipment/machinery/lines, group LO/TO will be used.
 - n. Hot-tap. Performance of maintenance on any part of a system while that system is energized. This includes electrical, steam hydraulic, pneumatic or any other form of energy transfer. Hot-tap is often associated with the installation of a valve or line extension to a pressurized system such as a pipe.
 - o. Lockout. The placement of a locking mechanism on an energy isolating device, to ensure that the equipment cannot be operated until the lockout device is removed.
 - p. Lockout device. A mechanism that holds an energy-isolating device in a safe position so that machinery or equipment cannot be energized (i.e. lock and key).
 - q. Log of LO/TO. A listing/log of LO/TO procedures being accomplished is required for dual energy sources.
 - r. Servicing and/or maintenance. Workplace activities such as constructing, installing, adjusting, modifying, lubricating, cleaning, and unjamming. Lockout/Tagout is only required if workplace activities may expose the employee to unexpected start-up or the release of energy.
 - s. Setting up. Any work performed to prepare machines/equipment or processes for normal operation or testing.

t. Tagout. The placement of a tagging mechanism on an energy-isolating device to indicate the equipment under control may not be operated. The tags used must contain the information as depicted at Appendix f. They must be white background with red and black writing graphics.

17-5. Responsibilities.

a. Appropriate employees shall be instructed in the safety significance of the lockout/tagout procedures.

b. Directors will maintain a list of employees' names and job titles authorized to lockout and tag out equipment (see Appendix g).

c. *The WRAMC Commander has the overall responsibility for the Command's Lock-Out/Tag-out program.*

d. *The Installation Safety Officer (ISO) will:*

(1) Establish the overall LO/TO program.

(2) Conduct spot checks of the program during routine inspections.

(3) Perform annual program reviews.

e. *Directorate/Division required to perform work under LO/TO will:*

(1) Write specific procedures for their operations. The outline at Appendix g may be used. Deviations are permissible; however, every element identified in the outline must be included, at a minimum.

(2) Identify and develop specific procedures for all equipment/machines with dual energy sources.

(3) Designate and provide training to authorized and affected employees.

f. *Supervisors will:*

(1) Ensure that only authorized employees perform service.

(2) Maintain a supply of locks, tags, and other LO/TO equipment.

- (3) Participate in the audits of the program.
- (4) Maintain the log of LO/TO, as appropriate.
- (5) Participate in the training of LO/TO, as applicable.

g. *Collateral Duty Safety Officers will:*

(1) Participate in the training of LO/TO, and conduct refresher training to the appropriate organizational personnel.

- (2) Perform spot checks of the program.
- (3) Participate in the audits and reviews of the program.

h. *Employees will:*

- (1) Participate in the training at the appropriate level.
- (2) Observe all LO/TO warnings.
- (3) Not remove or tamper with LO/TO devices.

i. *Director of Contracting will ensure that the contracts contain requirements to follow WRAMC lockout/tagout procedures and requirements.*

j. *Contractors will:*

- (1) Observe the WRAMC LO/TO equipment.
- (2) Not remove or tamper with LO/TO devices if not government provided.
- (3) Have a written program, to include training, if their work involves the requirement of LO/TO.
- (4) Provide contractor's own LO/TO equipment.
- (5) Brief the affected personnel prior to placing, and after removing of LO/TO equipment.

17-6. Training.

a. Prior to participating in LO/TO all authorized employees will be provided training that meets the Occupational Safety and Health Act (OSHA) requirements by the Installation Safety Office.

b. All affected and general employees will be provided training concerning LO/TO.

c. Training will be documented on WRAMC Form, Occupational Safety and Health Training Record.

17-7. Program requirements.

a. A written general procedure/Standing Operating Procedure (SOP) must be in place before LO/TO can be implemented.

b. Specific and detailed procedures must be written if a piece of equipment or machinery has two or more sources of energy (dual electrical switch, hydraulic and electric, steam and electric, etc.).

c. If guards are removed or controls are disabled from a piece of equipment or machinery, they must be replaced prior to re-energization.

d. Prior to shutting down a piece of equipment, the shutdown procedures will be reviewed.

e. Before any servicing, performing maintenance or installing or removing machines/equipment/lines, the energy sources must be isolated, and disabled, by affixing appropriate LO/TO devices to prevent unexpected energization, start-up or release of stored energy, in order to prevent injury to employees.

f. Only the person who installed the lock or tag can remove it. However, there are circumstances where the employee may not be available (became ill, injured, etc.); therefore, the internal procedure must identify the methodology for removal of someone else's lock or tag. f. Verification to ensure that the energy is not present will be performed prior to beginning work.

g. The LO/TO devices must remain in place until all work has been completed, and all authorized employees who are clear must be isolated, and disabled, by affixing appropriate LO/TO devices to prevent unexpected energization, start-up or release of stored energy, in order to prevent injury to employees.

h. Affected employees must be notified of the machines and equipment being locked-out or tagged-out, as well as when the LO/TO devices have been removed, and the energy has been restored.

i. Multiple LO/TO can be accomplished by one of the two following methods:

(1) Each authorized employee affixes a personal lock or tag to hasp on each energy-isolating device.

(2) A single group lock or tag will be attached to each energy-isolating device. The key or tear-off tag will be placed on a lockout box. Each authorized employee of the group performing the maintenance/service will affix their personal lock to the lockout box to secure the keys inside. This process ensures that none of the energy isolating devices can be unlocked until all members of the group have removed their locks from the lockout box. One member of the group is designated as responsible for determining and monitoring the overall exposure status of the individual group members.

CHAPTER 18 PREVENTION OF MOTOR VEHICLE ACCIDENTS

18-1. Purpose. The purpose of this regulation is to ensure that the WRAMC is in compliance with the OSHA and DA Accident Prevention Program.

18-2. Vehicle Restraint System. Commanders will strictly enforce the provisions of Army Regulation 385-55 (Prevention of Motor Vehicle Accidents) with particular emphasis on vehicle restraint system usage.

18-3. Convoy Operations.

a. WRAMC convoy operations will comply with safety provisions outlined in AR 385-55, Chapter 2 and FM 55-30 Chapter 5.

b. High-speed highways may be used when all vehicles in the convoy can safely maintain a speed at least equivalent to the posted minimum speed, or 40-mph if not posted.

18-4. Emergency Services. Drivers of Army emergency vehicles will comply with all local traffic laws and ordinances governing operating speeds of such vehicles and traffic control devices on public roads. Local laws and ordinances will also govern use of sirens and rotating or flashing lights on public roads.

18-5. Use of Safety Equipment.

Drivers of Army vehicles equipped with four-way flashers will be instructed in their use, which will include, as a minimum, the following:

a. Turn on flashers immediately when other vehicle is disabled or when the vehicle may impede. These flashers are not reliable for more than 10 minutes so portable highway warning kits must be set out promptly.

b. When ready to resume travel but before retrieving the highway warning devices, activate the four-way flashers to provide protection from other traffic.

c. Slow moving equipment (e.g., front-end loaders, road graders, crawler-type engineer equipment) which will be traveling 25 mph or less will display the Triangular Symbol to alert trailing vehicles as required by the OSH Act (29 CFR 1910.145). Contractor equipment in this category will also use the Triangular Symbol.

d. Vehicles carrying a load which extends beyond the sides or more than four feet beyond the front or rear will have the extremities of the load marked with red flags, not less than 12" square in daytime, and with red lights at night. On unusually long loads greater than one-third the length of the vehicle cargo bed, check with state or local traffic authorities to determine whether a special permit is required.

e. Drivers of tactical vehicles will keep lights on at all times when on public highways.

18-6. Safe Movement of Personnel.

a. The senior occupant of a vehicle is responsible for the safe operation of the vehicle, to include:

(1) Complying with local traffic laws and posted speed limits.

(2) Not exceeding the authorized seating capacity of the vehicle.

(3) Insuring all vehicle occupants wear available restraint devices.

(4) Assisting the driver in such vehicle operations as backing and alerting the driver to hidden obstacles and hazards.

b. Heavy winter clothing and field gear worn or carried by drivers and passengers reduces the number of persons that can safely ride in a vehicle cab or driver compartment. (Commanders should be guided accordingly.) Use TB 9-639, Passenger-Carrying Capacity of Tactical and Administrative Vehicles Commonly Used to Transport Personnel for guidance on troop carrying capacities of vehicles.

c. Personnel will not be transported in engineer dump trucks unless an approved positive antidumping device is installed, and a means to ease boarding and off-loading is provided.

18-7. Ground Guides. In addition to the ground guide requirements specified in AR 385-55, FMs, TMs, and SOPs ground guides will be used for all front-end loader refuse-type vehicles in housing areas. Each vehicle will have an audible backup alarm and a sign warning of backing and stopping.

CHAPTER 19 EXCAVATION PROGRAM

19-1. Purpose.

a. To provide WRAMC and contractor personnel with guidance and an overview of the Occupational Safety and Health Administration (OSHA) excavation program requirements.

b. To establish the policy on excavations at WRAMC.

c. To establish the training requirements for the competent person at excavations site.

19-2. Objective. This chapter is for all military, civilians, and contractor personnel assigned or attached to WRAMC.

19-3. Procedures.

a. A competent person will be placed in charge of all excavations. Because conditions can change very quickly, the competent person will be present whenever workers are in an excavation.

b. Underground utilities must be located and marked before excavations begin.

c. Employees are not allowed in the excavation while heavy equipment is digging.

d. For excavations less than 4 feet in depth specific requirements do not exist; however, many of the principles contained herein should be followed to ensure the safety of the employees.

e. For excavations greater than 4 feet in depth, a trench inspection checklist (WRAMC Form) will be filled out (See copy at Appendix c). Additional controls are not necessary if the competent person determines that there is no potential for cave-in.

f. For excavations greater than 5 feet in depth, the trench inspection checklist will be filled out, and the guidance in 29 CFR 1926, subpart P, will be followed.

g. If the excavation is greater than 20 feet in depth or if there is any deviation from the 29 CFR 1926, subpart P, an engineering design must be completed, and signed by a registered professional engineer.

h. Since most excavations performed at WRAMC will be conducted in order to repair/replace existing pipelines or equipment (i.e. soil has been previously disturbed), excavations will be classified as Type B or Type C soils only, as appropriate.

i. WRAMC excavation contracts will require the submittal of a detailed trench safety plan and specifications, which meet OSHA standards (Soil mechanics are outlined in Appendix d).

19-4. Background.

a. Excavation cave-ins are one of the leading causes of death in the construction industry, with up to 100 people dying each year. Although accurate figures are hard to come by, mainly due to reporting discrepancies on death certificates (i.e., a worker pinned under water in an excavation may be listed as a drowning victim), it should be noted that 9% of these deaths occur on utility related jobs.

b. Ignorance, poor judgment and poor attitudes regarding excavation safety are the leading cause of cave-in fatalities. Often individuals are not only ignorant of the applicability of the standard, but may simply not be aware of the extreme danger they face entering unprotected excavations. Most excavations do not kill or seriously injure people; therefore, workers tend to acquire a false sense of security, and a false sense of authority about what is safe and what is not. Statistics indicate that 9 out of 10 people covered with dirt in cave-ins will die.

c. Compliance with the OSHA standard is often bypassed due to budget or time constraints (individuals are inclined to cut corners), belief that compliance is unnecessary, or expectation that short-term operations will go undetected.

d. Luck does not prevent safety accidents/fatalities. The solution lies in training competent workers, incorporating safety into the thought process and practices, providing and enforcing the use of required equipment, and ensuring compliance with applicable policies and standards.

19-5. Responsibilities.

a. *The Installation Safety Office will:*

(1) Serve as the proponent for the excavation program.

(2) Assist in the training/qualification of WRAMC competent person(s).

(3) Conduct spot checks of excavation operations.

(4) Attend pre-construction meetings and review contracts, to ensure excavation safety plans have been included where required.

b. Industrial Hygiene will:

(1) Conduct air sampling, noise monitoring, and workplace assessments, as appropriate.

(2) Assist in potential hazardous atmosphere evaluations, as appropriate.

(3) Assist in the conduct of hazard assessment and job hazard analysis, as appropriate.

c. Commanders/organization chiefs who perform excavations will:

(1) Provide resources to procure equipment required for shoring, shielding, or sloping operations where excavations are performed.

(2) Provide resources for training the competent person(s).

(3) Establish local procedures for excavations on WRAMC (see paragraph 7).

d. Supervisors will:

(1) Ensure only trained competent individuals are assigned the duties of a competent person at excavation operations.

(2) Enforce excavation policies and procedures along with the competent person.

e. The competent person will enforce all local policies and procedures as stated in the OSHA standard, and ensure compliance with 29 CFR 1926, subpart P. This will include the following inspections:

(1) Daily, and before the start of each shift.

(2) As dictated by work being done in the trench.

(3) After each rain storm or other event that could increase hazards, such as a windstorm, earthquake, dramatic change in weather, etc.

(4) When bulging at the bottom, fissures, tension cracks, sloughing, undercutting, water seepage or similar conditions occur.

(5) When there is a change of size, location or placement of the spoil pile.

(6) When there is any indication of change or movement in adjacent structures.

(7) The competent person in charge of the excavation will be responsible for determining whether the soil is Type B or C. Where soils are configured in layers, the soils will be classified on the basis of the weakest layer. Each layer may be classified individually if a more stable layer lies below a less stable layer, i.e. Type C soil resting on top of stable rock. Soil type can change during excavation, i.e., adding water to Type B, will change soil classification to Type C.

(8) The competent person will conduct a visual test with one or more manual tests of the soil prior to and during excavation. In addition, the competent person will perform a visual test to evaluate conditions around the entire site, to include soil adjacent to excavation, any signs of vibration in the area, any other type of workers in the area, i.e., electricians, welders, etc.

(9) The competent person will have a complete and current copy of 29 CFR 1926, subpart P, and this memorandum at the job site, while work is in progress.

19-6. Training.

a. Prior to training, the supervisor must determine the excavation requirements/qualifications for a particular operation through the use of job hazard analysis or risk assessment.

b. Training for the competent person will consist at a minimum of the following:

(1) Attending an OSHA approved excavation course.

(2) Attending the 2-hour ISO excavation class.

(a) Individuals expected to enter excavations will attend the 2-hour ISO excavation class.

(b) Training will be documented on DD 1556.

19.7. Procedures.

a. Soil tests will be performed by the competent person in charge of the excavation using a visual test, coupled with one or more manual tests.

b. The visual test method requires the competent person to perform a physical observation of the entire excavation site, including the soil adjacent to the site, and the soil being excavated. A visual check will also be performed for any evidence of vibration in the vicinity. The competent person will:

(1) Check for crack-line openings along the failure zone that would indicate tension cracks.

(2) Check areas adjacent to the excavation for signs of foundations or other intrusions into the failure zone.

(3) Identify existing utilities.

(4) Observe the open side of the excavation for indicators of layered geologic structuring.

(5) Look for signs of bulging, boiling or sloughing, as well as for signs of surface water seeping from the sides of the excavation or from the water table.

(6) Check for surcharging load limit and the spoil distance from the edge of the excavation.

c. Manual test methods.

(1) Thumb penetration test. Attempt to press the thumb firmly into the soil in question, if the thumb penetrates no further than the length of the nail, it is normally Type B soil. If the thumb penetrates the full length of the thumb, it is Type C soil. It should be noted that the thumb penetration is the least accurate.

(2) Dry strength test. Take a dry soil sample, if it crumbles freely or with moderate pressure into individual grains it is considered granular (Type C). If the dry soil falls into clumps, which in turn can be broken into smaller clumps, and these smaller clumps can only be broken with difficulty, it is probably clay in combination with gravel, sand or silt (Type B).

(3) Plasticity or wet thread test. Take a moist sample of soil. Mold it into a thin thread, approximately 1/8 inch in diameter by 2 inches in length, if the soil does not break when held by one end, it may be considered Type B.

(4) A pocket penetrometer, shearvane, or torvane may also be used to determine the unconfined compression strength of soils.

d. Spoils (excavated material).

(1) Temporary spoils:

(a) Will be placed no closer than 2 feet from the surface edge of the excavation, measured from the nearest base of the spoil to the cut. Further distance may be required, depending on the type of material, to ensure that the temporary spoils do not fall onto the employees in the excavation.

(b) Will be placed so that it cannot accidentally run, slide or fall back into the excavation.

(2) Permanent spoils will be placed some distance from the excavation. The competent person will determine the exact distance.

(a) Rainwater or other run-off water will be directed away from the excavation.

(b) Surface crossing of trenches will not be made unless absolutely necessary. If necessary, they are permitted under the following conditions:

(3) Vehicle crossings must be designed by and installed under the supervision of a registered professional engineer.

(4) Walkways or bridges must:

(a) Have a minimum clear width of 20 inches.

(b) Be fitted with standard top and mid-rails and toe boards.

(c) Extend a minimum of 24 inches past the surface edge of the trench.

e. Ingress/egress.

(1) Trenches 4 feet or more in depth will be provided with a fixed means of ingress/egress.

(2) Spacing between ladders (or other means of egress) must be in such a manner that a worker does not have to travel more than 25 feet laterally to the nearest means of egress once inside the excavation.

(3) Ladders must be secure, and extend a minimum of 36 inches above the landing. Use caution if using metal ladders when electric utilities are present.

f. Employees exposed to vehicular traffic are required to wear reflective vests or other suitable garment marked with or made of reflecting or high-visibility materials.

g. Exposure to falling loads.

(1) All employees on an excavation site will wear hard hats.

(2) At no time will employees be allowed to work under raised loads, nor will employees be allowed to work under loads being lifted or moved by heavy equipment used for digging or lifting.

(3) Employees are required to stand away from equipment that is being loaded/unloaded, to avoid being struck by falling material or spillage.

(4) Equipment operators or truck drivers are allowed to remain in their equipment/vehicles during loading/unloading if the equipment is properly equipped with a cab shield or canopy.

h. Mobile equipment warning systems. The following measures will be implemented to prevent vehicles from accidentally falling into the trench:

(1) Barricades will be installed, as necessary.

(2) Hand or mechanical signals will be used, as required.

(3) Stop logs (chock barriers) will be installed if there is danger of vehicles falling into the trench.

(4) Soil will be graded away from the excavation in order to assist in vehicle control and channeling of run-off water.

(5) Trenches will be fenced and barricaded if left open overnight.

i. Atmospheric conditions and confined spaces.

(1) Employees will not be permitted to work in hazardous and/or toxic atmospheres. These conditions include:

- (a) Less than 19.5% oxygen.
- (b) A combustible gas concentration greater than 10% of the lower explosive limit (LEL).
- (c) Concentrations of hazardous substances that exceed those specified in the OSHA standard or Army requirements.
- (d) Any such operations will be conducted in accordance with (IAW) all OSHA requirements for occupational health, and environmental controls for personal protective equipment, and lifesaving equipment. Job hazard evaluation will be implemented, to ensure any required controls, i.e., ventilation or respiratory equipment is provided. If the trench qualifies for classification as a confined space, entry will be in compliance with Confined Space Program.

(2) If the potential for a hazardous atmosphere is present, i.e., excavations near landfills or excavations adjacent to hazardous materials/pipelines (natural gas), atmospheric testing will be accomplished prior to entry.

(3) Testing frequency.

- (a) Testing will be conducted before employees enter the trench.
- (b) Will be performed at regular intervals to ensure that the trench remains safe.
- (c) Testing will be increased if equipment is operating in the trench or if welding, cutting or burning is being performed in the trench.

(4) Employees required to wear respiratory protection will be trained, fit-tested and enrolled in a respiratory protection program prior to wearing a respirator.

j. Standing water and water accumulation.

(1) In general, employees will not be allowed to enter trenches that have significant accumulation of water. An exception can be made only after coordination and approval of the ISO.

(2) Use of special support or shield systems will be approved by a professional engineer.

(3) Water removal equipment will be used and monitored by a competent person.

(4) Safety harness and lifelines are used in conformance with OSHA requirements (29 CFR 1926.104 and 29 CFR 1910, subpart I).

(5) Employees will be removed from the trench during rainstorms.

(6) Trenches will be carefully inspected by a competent person after each rain, and before employees are permitted to re-enter the trench.

k. Benching, sloping, shoring, and shielding.

(1) Excavations performed at FSH will be accomplished IAW 29 CFR 1910, subpart P, and as set forth in this memorandum.

(2) Excavations under the base footing of a foundation or wall require a support system designed by a registered professional engineer.

(3) Sidewalks and pavements shall not be undermined, unless a support system or similar method of protection against possible collapse is provided for employees.

(4) Sloping.

(a) Maximum allowable slopes for excavations less than 20 feet based on soil type and angle to the horizontal are as indicated at Appendix d.

(b) For example, a 10 feet deep trench in Type B soil would be sloped to a 45 degree angle -- 10 feet back in both directions. Total distance across a 10 feet deep trench would be 20 feet, plus the width of the bottom of the trench itself. In Type C soil, the trench would be sloped at a 34 degree angle -- 15 feet back in both directions, for at least 30 feet across, plus the width of the bottom of the trench itself.

(5) Benching. There are two basic types of benching, single and multiple, which can be used in conjunction with sloping. **Benching is not allowed in Type C soil.**

(a) In Type B soil, the vertical height of benches must not exceed 4 feet.

(b) Benches must be below the maximum allowable slope for that soil type. For example, a 10 feet deep trench in Type B soil must be benched back 10 feet in each direction, with a maximum of a 45 degree angle.

(6) Shoring. Shoring or shielding is used when location or depth of the cut makes sloping back to the maximum allowable slope impractical. The two basic types are timber and aluminum hydraulic. Due to cost and effort of using lumber, aluminum hydraulic is the preferred method. Hydraulic shoring provides a critical safety advantage over timber because workers do not have to enter the trench to install them. Hydraulic shoring is also light enough to be installed by one worker, they are gauge-related to ensure even distribution of pressure along the trench line, and can be adapted easily to various trench depths and widths. If lumber shoring is used, it must meet the requirements set forth in 29 CFR 1926, subpart P.

(a) All shoring will be installed from the top down, and removed from the bottom up.

(b) Hydraulic shoring will be checked at least once per shift for leaking hoses and/or cylinders, broken connections, cracked nipples, bent bases, or any other damage or defective parts. Unserviceable equipment will not be used at any time.

(c) The top cylinder of hydraulic shoring will be no more than 18 inches below the top of the excavation.

(d) The bottom of the cylinder shall be no higher than 4 feet from the bottom of the excavation. Two feet of trench wall may be exposed beneath the bottom of the rail or plywood sheeting, if used.

(e) Three vertical shores, evenly spaced, must be used to form a system.

(f) Wales are installed no more than 2 feet from the top, no more than 4 feet from the bottom, and no more than 4 feet apart, vertically.

(g) Hydraulic shoring for Type B and Type C soil will be installed IAW Appendix d, 29 CFR 1926, subpart P.

(7) Shielding. Trench boxes are different from shoring, instead of supporting the trench face; they are intended primarily to protect workers from cave-ins.

(a) Excavation areas, between the outside of the trench box and face of the trench must be backfilled, to prevent lateral movement of the box.

(b) Shields (Trench Boxes) may not be subjected to loads exceeding those, which the system was designed to withstand.

(c) Shields may be used in combination with sloping and benching.

(d) Shields must extend at least 18 inches above the surrounding area if there is sloping toward the excavation. This can be accomplished by providing a benched area adjacent to the shield.

(e) Any modifications to the shields must be approved by the manufacturer.

(f) Shields may ride above the bottom of an excavation, provided they are calculated to support the full depth of an excavation, and there is no caving under or behind the shield.

(g) Workers must enter and leave the shield in a protected manner, such as a ladder or ramp.

(h) Workers must not remain in shield while it is being moved.

Appendix A
REFERENCES

1. OSHA Standard 29 CFR, § 1926 (subpart P), Excavations.
2. FM 101-5, Command and Control for Commanders and Staff.
3. AR 385-40, 1 November 1994, Accident Reporting and Records.
3. DA Pam 385-40, 1 November 1994, Army Accident Investigation and Reporting.
4. MEDCOM Reg 385-40, Reporting Accidental Injuries and Occupational Diseases.
5. AR 385-95, 10 December 1995 Army Aviation Accident Prevention.
6. DA Pam 385-95, 10 December 1995, Aircraft Accident Investigation and Reporting.
7. AR 190-57 September 1988 Motor Vehicle Traffic Supervision.
8. AR 385-55, 12 March 1987, Prevention of Motor Vehicle Accidents.
9. AR 40-14 Control and Recording Procedures for Exposure to Ionizing Radiation and Radioactive Materials.
10. AR 385-10, 2 February 2000, Army Safety Program.
11. DA MEMO 385-3, 7 June 2001, HQDA MACOM Safety Program.
12. AR 672-74, 30 May 1995, Army Accident Prevention Awards Program.
13. FM3-100.12, 23 April 1998, Multi-service tactics techniques and Procedures for Risk Management.

Appendix B
DEFINITIONS

Aluminum Hydraulic Shoring. An engineering shoring system comprised of aluminum hydraulic cylinders (cross braces), used in conjunction with vertical rails (uprights) or horizontal rails (walers). Such a system is designed specifically to support the sidewalls of an excavation and to prevent cave-ins.

Benching. A method of protecting employees from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels.

Cave-in. Separation of mass of soil or rock materials from the side of an excavation, or the loss of soil from under a trench shield or support system, and its sudden movement into the excavation, either by falling or sliding in sufficient quantity so that it could entrap, bury, or otherwise injure and immobilize a person.

Competent Person. One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. All competent persons will have and be able to demonstrate the following:

- a. Training, experience and knowledge of soil analysis, use of protective systems, and the requirements outlined in 29 CFR 1926, subpart P.
- b. Ability to detect conditions that could result in cave-ins, failures in protective systems, hazardous atmospheres, and other hazards, including those associated with confined spaces, lockout/tagout, etc.

Excavation. Any man-made cut, cavity, trench or depression in an earth surface formed by earth removal.

Registered Professional Engineer. A person who is registered as a professional engineer in the state where the work is to be performed, or any state if approving designs for "manufactured protective systems" or "tabulated data" to be used in interstate commerce.

Shield (Shield System or Trench Box). A structure that is able to withstand the forces imposed on it by a cave-in and thereby protects the employees with the structure. Shields can be permanent structure or can be designed to be portable and moved along as work progresses. Also known as trench box or trench shield.

Shoring (Shoring System). A structure such as metal hydraulic, mechanical or timber shoring system that supports the sides of an excavation and which is designed to prevent cave-ins.

Sloping (Sloping System). A method of protecting employees from cave-ins by excavating to form sides of an excavation that are+ inclined away from the excavation so as to prevent cave-ins. The angle of incline varies with differences in such factors as the soil type, environmental conditions of exposure, and application of surcharge loads.

Appendix B (Continued)
DEFINITIONS

Soil Types:

Type A: Most stable. Clay, silty clay, and hardpan (resists penetration). No soil is Type A if it is fissured, is subject to vibration of any type, has been previously disturbed, or has seeping water.

Type B: Medium stability. Silt, sandy loam, medium clay and unstable dry rock; previously disturbed soils unless otherwise classified as Type C; soils that meet the requirements of Type A soil but are fissured or subject to vibration.

Type C: Least stable. Gravel, loamy sand, soft clay, submerged soil or dense, heavy unstable rock, and soil from which water is freely seeping.

Trench (Trench Excavation). A narrow excavation (in relation to its length) made below the surface of the ground. In general, the depth is greater than the width, but the width of a trench (measured at the bottom) is not greater than 15 feet. If forms or other structures are installed or constructed in an excavation as to reduce the dimension measured from the forms or structure to the side of the excavation to 15 feet or less, the excavation is also considered to be a trench.

Wales. Horizontal members of a shoring system placed parallel to the excavation face whose sides bear against the vertical members of the shoring system or earth.

Appendix C Excavation Checklist

Date _____ Time _____ Competent Person _____
 Location _____ Weather Conditions _____

Item	Yes	No	Action Required
Is cut, cavity or depression a Trench/Excavation (>4 ft)?			
Is the excavation >20 in depth?			
Is a competent person in charge and present at site?			
Is there water in excavation?			
Has competent person made soil determination?			
Is ingress/egress adequate?			
Have the underground utilities been identified?			

Are there any surface hazards (i.e. overhead power lines)?			
Does mobile equipment have warning system?			
Is spoil placed 2 feet or more from edge of the excavation?			
Are surface crossings required?			
Are all employees wearing hard hats?			
Are hazardous atmospheres or confined spaces present?			
Are respirators required? Wearer fit-tested/trained?			
Does the procedure require benching (A/B Type Soil only)?			
Does the procedure require shoring, shielding, sloping?			
If provided, does the shield extend at least 18 in. above the surrounding area if sloped toward the excavation?			

If shields are used, is the depth of the cut >2 ft below the bottom of the shield?			
Are means of egress (i.e. ladders) provided no more than 25 ft from work?			
Is emergency rescue equipment required?			

Appendix D Soil Mechanics

Soil, for trenching and excavation purposes, is defined as any material to be removed from the ground to form a hole, trench, or cavity for the purpose of working below the earth surface. Soil can be an extremely heavy material, weighing more than 100 pounds per cubic foot (pcf). A cubic yard of soil (3 ft x 3 ft x 3 ft) contains 27 cubic feet of material and could weigh more than 2,700 lbs. This is almost 1 1/2 tons or the equivalent weight of a car in a space less than the size of an average office desk. It is no surprise that the human body cannot support this heavy load without being injured. In addition, wet soil, rocky soil or rock is usually heavier.

Visualize the soil as a series of multiple columns of soil blocks, with the blocks piled one on top of the other. Each soil block weighs approximately 100 lbs and supports the weight of all the blocks above. This means the bottom block supports the vertical weight of itself and the 4 other blocks resting on it - all 500 lbs spread over a one-square-foot area (pcf). The column of soil exerts not only this vertical pressure but the horizontal force in all outward directions. The horizontal force pushing in all directions is half of the 500 lbs - or 250 pcf. Theoretically, as the weight of the column increases, there would be a tendency for the soil to compress and spread outward. However, in undisturbed soil conditions, this process is stopped by the presence of the surrounding columns pushing back with equal pressure. The hypothetical columns pressing against each other help maintain an equilibrium.

Trench Failure. When soil has been excavated, this equilibrium no longer exists. The bottom block of soil may no longer be able to support its weight nor the weight of the blocks above it. At this point a wall could shear and break away from its stable position. It should be noted that cave-ins can start anywhere along the wall. Usually the first failure occurs when the bottom of the wall falls into the trench. This creates an undercut area at the base of the trench. This results in a second movement where more of the wall erodes. As the erosion of the base of the trench leaves the column unsupported, more soil is sheared off under its own weight and results in a cave-in. It is at the second and third stage that many would be rescuers, attempting to save victims, find themselves trapped along with the first victims. Due to the uncertainty of time lapses between failures, time is a major consideration. The longer the trench is unsupported, the more potential there is for further trench collapse. Proper safety procedures are not a waste of time and money. They save time, money and more importantly lives.

Appendix D (Continued)

Soil Type	Height/Depth Ratio	Slope Angle
Type B	1:1	45 degrees
Type C	1 1/2 : 1	34 degrees

SOIL TYPE AND ANGLE TO THE HORIZONTAL

Appendix E
**WRAMC SAFETY DEPARTMENT
CONFINED SPACE EVALUATION**

(Part 1 page1)

Entry Date: _____ Entry Time: _____

Entry team Supervisor's Name: _____

Entry team Attendant's Name: _____

Location of Work to be Performed: _____

Reason for Entering Confined Space: _____

POTENTIAL HAZARDS

_____ Corrosive Materials	_____ Toxic Materials	_____ Heat or Cold
_____ Flammable Materials	_____ Lack of Oxygen	_____ Slip, Trip, Falls
_____ Inert Gases	_____ Engulfment	_____ Water
_____ Steam	_____ Entrapment	_____ Live Energy Source

_____ Other Hazards _____

ATMOPHERIC TESTING

Equipment Calibration Type and S/N	Date	Time	Calibrated By
_____	/ /02	am/pm	_____
_____	/ /02	am/pm	_____
_____	/ /02	am/pm	_____

Atmospheric Testing Location: _____

Appendix E (continued)

Date/Time	% Oxygen (19.5-23.5)	%LEL(<10% LEL)	Contaminant Concentration	Exposure (PEL, TLV)
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Atmospheric Testing Results Indicate:

_____ Atmospheric is NOT

_____ Atmospheric is Hazardous (Complete

Part 3) Hazardous

_____ No Potential Hazard – Confined Space is Classified as a NPCS

_____ Hazard or Potential Hazard - Confined Space is Classified as a PRCS (Complete Part 2)

PERSONAL PROTECTIVE – SAFETY EQUIPMENT NEEDED

_____ Barricades	_____ Communication Eqmt.	_____ Safety Harness
_____ Mech. Lifting Eqmt.	_____ Rescue Gear	_____ Flashlight
_____ Coveralls	_____ Fall Protection	_____ Hard Hat
_____ Gloves	_____ Safety Shoes	_____ Eye Protection
_____ Hearing Protection	_____ Manhole ring protector	_____ Ventilation gear

Other _____

CONFINED SPACE PREPARATION

Atmosphere is to be Tested:

_____ Continuously

_____ Periodically for: _____

_____ Other _____

Forced Ventilation to be used

_____ Continuously

_____ Periodically for: _____

_____ Other _____

Are all valves, switches, operating mechanisms, and energy sources locked or Tagged out?

Y

N/A

Is vessel drain/flushed/neutralized?

Y

N/A

Is vessel space clean/purged?

Y

N/A

Are lines to vessel blanked or misaligned?

Y

N/A

PRE-ENTRY BRIEFING

Have all employees been adequately trained?

Y

N/A

Appendix E (continued)

(Part 2 – page 3)

Hazard Evaluation Indicates:

Has emergency rescue been explained/established?	Y	N/A
--	---	-----

Describe means of rescue: _____

Have the hazard of the work been explained?	Y	N/A
---	---	-----

Has an attendant been designated?	Y	N/A
-----------------------------------	---	-----

What is the name of the designated attendant? _____

Describe type of communication established _____

AUTHORIZED ENTRANTS

NAME	TIME IN	TIME OUT
_____	_____	_____

Appendix E (continued)

PART 3

Describe any problems encountered during the entry operation:

How might these problems be avoided in future entry operation?

Describe any prohibited condition that occurred during the entry operation:

Attach all copies and forward to:
Walter Reed Army Medical Center
Safety Department
6900 16th Street NW
Building 11
Washington D.C. 20307
Phone: 202-782-3548
Fax: 202-782-7687

Appendix F
WRAMC SAFETY DEPARTMENT
CONFINED SPACE PERMIT

PART 4

(Post at entrance for duration of entry operation)

This confined space has been designated a **Permit Required Confined Space (PRCS)**. This space may only be entered by personnel who have been specially trained to work in PRCS in accordance with WRAMC Safety Department Confined Space Entry Programs. Entry operations may proceed only under the direction of an entry supervisor. A specially trained attendant shall remain outside the PRCS for the duration of the entry operation.

HAZARDOUS CONDITION IDENTIFIED DURING EVALUATION

☐ **Atmospheric Hazards**

Describe: _____

Acceptable Entry Conditions: _____

Prohibited Conditions: _____

☐ **Physical Hazards**

Describe: _____

Acceptable Entry Conditions: _____

Prohibited Conditions: _____

ADDITIONAL PERSONAL PROTECTIVE/SAFETY EQUIPMENT NEEDED

☐ SCBA Describe: _____

☐ Respirator Describe: _____

☐ Special Safety Equipment Describe: _____

☐ Other Describe: _____

PERMIT AUTHORIZATION

Permit #: _____

Duration of Permit: _____

Name: _____

Title: _____

Appendix F (Continued)

Date of Permit: _____ Phone #: _____

Signature: _____

PERMIT CANCELLATION

Date: _____ Time: _____ Canceled by: _____

Reason for
Cancellation:

- ☐ Occurrence of Prohibited Condition
- ☐ Entry Operation Completed (Compete Part 5)

Appendix G
WRAMC APPLICATION OF LOCK/TAGOUT

1. Understand the hazard. (Check all that apply)

☐ **ELECTRICAL**

Shock and burn could result from contact with the exposed conduction line voltage or high voltage equipment. Flying parts or fire could result if this circuit were shorted. Electricity should be controlled at the **(circuit breaker) (main switch), or (fuse box)**.

LOCATED: _____

☐ **PNEUMATIC**

High velocity air impingement can inflict injury to the eyes, ears and to opening or cuts to the skin. Air flow can cause small objects to become airborne missiles. Compressed air should be controlled at the **(shutoff valve), (cylinder control valve) or (air line valve)**.

LOCATED: _____

☐ **CHEMICAL**

_____ gas or liquid can produce illness or injury through its **(toxicity) (flammability) (reactivity)**. It can be controlled from accidental release by the turning the **(cylinder valve) (gas line control valve)**.

LOCATED: _____

☐ **MECHANICAL**

The _____ can inflict tissue or skeletal injury through **(crushing) (laceration), (impalement)**. It can be controlled through the **(main electrical switch), (plug), (circuit breaker), (anti-motion pin)**.

LOCATED: _____

Appendix G (continued)

☐ **THERMAL**

The _____ can cause **(burns) (fires)**. It can be controlled by the **(main electrical switch) (electrical plug control) (electrical circuit breaker) (electrical fuse box) (steam valve) (fluid line valve) (shielding)**.

LOCATED: _____

☐ **UV**

Exposure to ultraviolet rays from the _____ can result in burn injuries to the skin and eyes. It can be controlled by the **(main electrical switch) or (electrical circuit breaker)**.

LOCATED: _____

or by using an **appropriate shield** such as _____

2. Shut down the _____ following normal procedures.

3. Isolate the source of energy by: (check all that apply)

☐ **ELECTRICAL**

Locate the **main switch box or circuit breaker** to the
Following: _____ in circuit breaker box number
_____. The correct circuit is Number _____

LOCATED: _____

Appendix G (continued)

(Open the breaker), (open the switch), (or remove the plug). Attach a lockout-enabling device if the circuit cannot otherwise accommodate a padlock. Place plug in a plug lock box. WRAMC Reg 385-1

☐ **VALVE**

Locate and close the _____ shut-off valve that supplies the _____ To the _____

Apply the appropriate **(ball valve) (gate valve) (donut) (handle) (chain energy isolation device).**

☐ **MECHAINICAL/STORAGE/POTENTIAL ENERGY**

(Bock) (pin) the _____
with a _____
Apply a lockout enabling device to prevent removal of the _____.

4. Secure the energy-controlling lockout by attaching a personal lock and completed tag to the lockout enabling device. If more than one person will work will be performing the work, each must apply his own lock to a multiple lock devices.

5. Release all stored energy in the _____
_____. If there is a heat exposure, allow the _____
_____ to cool.

Release any (type) _____ pressure trapped between the **shut-off valve and equipment.**

Purge the system **(drain) (purge all** _____
trapped between the **shut-off valve and the equipment.**

Check to ensure the _____ has come to a complete stop. **Discharge any large capacitors** and ensure they remain shorted.

6. Verify that no potential energy can be released. Verify that no voltage is present by: **testing** the _____ with **(voltmeter) (operating switch).**

Appendix G (Continued)

Verify that no _____ can _____.

7. Inspect the _____ and the surrounding area following completion of work for **loose tools, parts, correct valve settings, system integrity, exposed conductors**. Check that **all machine guards are in place** and reconnected if applicable.

8. **Notify** others in the area that the _____ is about to be made operational and returned to service.

9. Remove personal lock, tag, and lockout enabling device from _____. This step must be performed by the same person who applied the tag and lock.

TYPES OF ENERGY CHECKLIST			
ENERGY TYPE	HAZARD	MAGNITUDE	CONTROL
Electrical	Shock	110V	Main Switch
	Burn	220VAC	Plug Control
	Fire	208 VAC	Fuse Blocks
			Shielding
Pneumatic	Mechanical		
	Pinch Points	Moderate	Air Line Valve
	Crush	Sight	Gas Cylinder Valve
Chemical (Gas)	Flammable	Sight	Cylinder Valve
	Corrosive	Moderate	Gas Line Valve
	Toxic	High	
	Reactive		
Chemical (Liquid)	Flammable	Sight	Valve
	Corrosive	Moderate	Flange Plate
	Toxic	High	
	Reactive		
	Moving Parts	Moderate	Plug Control
	Crushing	High	Shielding
	Laceration		Blocking
	Impalement		Anti-motion Pin
UV	Skin and Eye	Sight	Shielding

	Burn		
		Main Switch	Main Switch
		High	Plug Control
			Circuit Breaker
Electromagnet	Strong Field	Sight	Main Switch
		Moderate	Plug Control
		High	Circuit Breaker
Thermal	Burn	Moderate Temperature	Main Switch Plug Control
		High Temperature	Steam Valve
Cryogenic			Fluid Line Valve

Appendix G (Continued)

Walter Reed Army Medical Center Lockout-Tagout Training Program

Name _____ ID # _____

Division/Department _____ Job Title _____


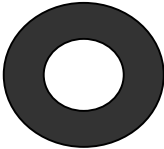
The named employee has completed lockout-tagout training presented by:

_____ On ____ / ____ / ____
(Trainer) (Date)

The training included the following element:

1. The reason for a lockout/tagout program.
2. The need to ensure the equipment cannot be accidentally re-energized.
 - a. By tagging all operations in the **OFF** or **STOP** position.
 - b. Deactivating and tagging out the control circuit at the automation controls.
 - c. Deactivate and lockout the control circuit at the breaker or at the main control **ON – OFF** switch.
3. The only certain way to ensure the circuit is deactivated is at the motor disconnect. To verify disconnect the circuit should be tested at the load side of the control with a tester that has just been tested on a known energized voltage source.
4. The requirement to disconnect and lockout all energy sources.
5. Attempt to activate the equipment to verify the lockout has de-energized the equipment and that all secondary energy sources are controlled.
6. The lockout procedure will be in force until all work is completed and guards are reinstalled as required.

Appendix H
LOCKOUT/TAGOUT TAGS

	
DANGER	
Safety Lockout Tag	
DO NOT OPERATE!	
Tag Must Remain Intact Unless	
Remove by	
Authorized Employee:	
Name	_____
Date	_____
Time	_____

Maintenance Description	

Immediate Supervisor	

Appendix I

SUPERVISOR'S REPORT OF AN OCCUPATIONAL ACCIDENT		
SECTION I: PERSONNEL		
1. NAME:	2. SSN:	3. DEPARTMENT:
4. RANK/CIV GRADE:	5. OCCUPATION/JOB TITLE:	6. DATE OF BIRTH:
SECTION II: ACCIDENT		
7. EXACT LOCATION:	8. DATE:	9. TIME:
10. SPECIFIC TASK BEING PERFORMED:		
11. HOW THE ACCIDENT OCCURRED (DESCRIBE SEQUENCE OF EVENTS):		
12. WHAT PROTECTIVE EQUIPMENT WAS REQUIRED:	13. WAS IT AVAILABLE?/BEING USED PROPERLY?:	
14. DATE OF LAST SAFETY TRAINING:	15. TOPICS COVERED:	
SECTION III: RESULTS OF THE ACCIDENT		
16. NATURE AND EXTENT OF INJURY/PROPERTY DAMAGE:		
17. WAS MEDICAL TREATMENT SOUGHT/REQUESTED:	18. WAS TIME LOST OR ANTICIPATED:	
19. ACTION TAKEN OR PLANNED TO PREVENT RECURRENCE:		
20. NAME OF SUPERVISOR (PRINT):	21. TELEPHONE NUMBER:	
22. SIGNATURE OF SUPERVISOR:	23. DATE OF REPORT:	

WRAMC FORM 1332, JAN 91

OCCUPATIONS & PPE

1. AUTOMOTIVE MECHANIC

- a. Safety shoes with steel safety toe (S2 EN 345 TYPE ST).
- b. Cap.
- c. Gloves, leather, strap closure (cream M 1950 LIN J 68064).
- d. Rubber gloves, oil/hydraulic fluid resistant.
- e. Protective hand cream to prevent skin damage caused by aggressive hydraulic oil etc.
- f. If Automotive Mechanics are required to perform duties outside, the following protective equipment is required:
 - (1) Parka, wet weather, DIN 61536, yellow w/removable insert.
 - (2) Winter-overall, LIN F31439.
 - (3) Safety boots, cold weather S3 CIEN 345 TYPE SHH.
- g. Hearing protective devices.

2. BATTERYMAN

- a. Acid-resistant shoes (S2 EN 345 TYPE ST) and boots (S5 CEN 345 GS proofed).
- b. Apron, impermeable (8415-00-082-6108).
- c. Full face shield.
- e. Hand Cream
- f. Rubber gloves, acid resistant.

3. BLUE PRINT MACHINE OPERATOR

- a. Gloves, Rubber, acid resistant (DIN 4841).

Appendix J (Continued)

b. Goggles, Industrial, one-piece, plastic lenses, ventilated (NSN 4240-00-052-3776).

c. Protective hand cream to prevent skin damage caused by alkalies and solvents.

4. CONSTRUCTION INSPECTOR, SUPERVISORY PERSONNEL

CPO PERSONNEL, WORKS COUNCIL PERSONNEL, (required to visit workplaces)

a. Safety shoes with steel safety toe (S2 EN 345 TYPE H).

b. Safety shoes with steel toe, spike resistant (S3 EN 345 TYPE H) (for construction site supervisors).

c. Safety helmet with mounted or integrated hearing protection device (for construction site supervisors).

d. Hearing protection devices (ear muffs), DA Pam 385-3, Fig 4-12.

e. Parka, wet weather (DIN 61536) with removable insert (for construction site supervisors).

5. CARPENTER/WOODWORKER

a. Safety shoes with steel safety toe, spike resistant (S3 EN 345 TYPE H).

b. Hearing Protective Devices.

c. Gloves, leather

d. Parka, wet weather (DIN 61536) with removable insert.

e. Boots for extreme cold weather, S3 CIEN 345 TYPE SHH.

f. Safety Helmet with mounted or integrated hearing protection device (for construction site supervisors).

Appendix J (continued)

6. COOK (when meat cutting is performed in addition to cooking)
 - a. Apron, meat cutter, brass bib, adjustable strap (LIN A 87275).
 - b. Gloves, meat cutter, wire mesh (LIN J 63817).
7. DRIVER
 - a. Safety shoes with steel safety toe, nonsparking sole (S2 EN 345 TYPE H).
 - b. Reflecting Vest (DIN 30711) Permanent issue to professional drivers.
 - c. Gloves, leather, strap closure (cream M1950, LIN J 68064).
 - d. Rubber Boots (S5 CEN 345 GS proofed).
 - e. Parka, Wet Weather (DIN 61536).
8. ELECTRICIAN (working at construction sites also)
 - a. Safety shoes with steel safety toe, nonsparking sole (S3 EN 345 TYPE H).
 - b. Rubber boots, (DIN 4843-G).
 - c. Safety boots in cold weather (S3 CIEN 345 GS proofed).
 - d. Gloves, leather, strap closure (cream M1950, LIN J 68064).
 - e. Parka Wet weather (DIN 61536) with removable insert.
 - f. Safety helmet IAW DIN 4840, for high voltage areas (more than 1000 Volt) DIN 0680 T 1.
9. ELECTRONICS TECHNICIAN/MECHANIC

Appendix J (continued)

- a. Safety shoes with steel safety toe (S2 EN 345 TYPE H).
- b. See number 8 (Electricians).

10. ENVIRONMENTAL CONSERVATION PERSONNEL

- a. Safety shoes with steel safety toe, spike resistant (S3 EN 345 TYPE H) for construction workers.
- b. Cap, protective maintenance personnel (LIN 81141 N, DA Pam 385-3, CTA 50-1900). An equivalent cap will be obtained if cap as listed above cannot be requisitioned through normal supply channels.
- c. Parka, wet weather (DIN 61536) with removable insert.
- d. Rubber boots with steel safety toe, spike resistant (S5 CEN 345 GS proofed).

11. FILLING STATION ATTENDANT

- a. Safety shoes with steel safety toe (S2 EN 345 TYPE H).
- b. Gloves, leather, strap closure (cream M1950, LIN J 68064).
- c. Parka, wet weather (DIN 61536) with removable insert.
- d. Coverall, cotton.
- e. Safety boots, extreme cold weather (S2 CIEN 345 TYPE SHH).

12. FIRE PREVENTION PERSONNEL

- a. Non-asbestos fire fighter coat and trousers IAW DIN 54336, 54335 and 66083V.
- b. Safety harness, DIN 7470.
- c. Safety boots, IAW DIN 4843 or equivalent, such as shoes 80581 N.
- d. Safety shoes, S3 EN 345 TYPE H.
- e. Helmet, Firemen's IAW DIN 14940.

Appendix J (continued)

- f. Gloves, fire resistant (free of asbestos).
- g. Gloves, leather, strap closure, LIN J 68064.
- h. Breathing apparatus, self-contained IAW DIN 3183.
- i. Chemical protective clothing, full body protection to include breathing apparatus for atmosphere containing a toxic or disease producing gas, vapor, dust, fume or mist.
- j. If welding work must be performed by fire prevention personnel the following type of PPE is required:
 - (1) Helmet, LIN 51936 N, or equivalent.
 - (2) Apron, LIN A 85905.

13. FORKLIFT OPERATOR

- a. Safety shoes with steel safety toe, (S2 EN 345 TYPE H).
- b. Gloves, leather, strap closure (cream M1950, LIN J 68064).
- c. Parka, wet weather (DIN 61536) with removable insert.
- d. Trousers, wet weather, with removable insert (DIN 61536).
- e. Safety boots, extreme cold weather (S3 CIEN 345 TYPE SHH).
- f. Safety helmet IAW DIN 4840.

14. GARDENER

- a. Safety shoes with steel safety toe, spike resistant (S3 EN 345 TYPE ST).
- b. Parka, wet weather (DIN 61536) with removable insert.
- c. Warning vest (DIN 30711).
- d. Gloves, leather, strap closure (cream M 1950 LIN J 68064).

Appendix J (continued)

- e. Goggles (NSN 4240-00-052-3776).
- f. Rubber Boots (S5 CEN 345 GS proofed).
- g. Safety boots, cold weather, S3 CIEN 345 TYPE SHH.
- h. Hearing protection.

15. GUARD, GATE GUARD

- a. Parka, wet weather coat (LIN N 70110).
- b. Trousers, wet weather (LIN N 37752).
- c. Boots, combat (LIN C 06749).
- d. Coat, cold weather, field jacket (LIN E 43851).
- e. Sleevelets, traffic (NSN 8465-00-177-4976, LIN B 24552).
- f. (Only for Gate Guard) Lighted signaling disk red lighted disk with working on top: STOP, on bottom: HALT.
- g. Metal bands with spikes to wear over shoes.

16. GENERATOR REPAIRMAN

- a. Safety shoes with steel safety toe, nonsparking sole (S3 EN 345 TYPE H).
- b. Rubber boots, (DIN 4843-G).
- c. Safety boots in cold weather (S3 CIEN 345 TYPE SHH).
- d. Gloves, leather, strap closure (cream M1950, LIN J 68064).
- e. Parka wet weather (DIN 61536) with removable insert.
- f. Safety helmet IAW DIN 4840.

17. GLAZIER

- a. Safety shoes with steel safety toe (S2 EN 345 TYPE H OR ST).
- b. Gloves, leather, strap closure (cream M 1950, LIN J 68064).

18. GROUND KEEPER (GRASS CUTTING)

- a. Safety shoes with steel safety toe, spike resistant (S3 EN 345 TYPE ST).
- b. Parka, wet weather (DIN 61536) with removable insert.
- c. Warning vest (DIN 30711).
- d. Gloves, leather, strap closure (cream M 1950 LIN J 68064).
- e. Goggles (NS^N 4240-00-052-3776).
- f. Safety boots, cold weather (S3 CIEN 345 TYPE SHH).
- g. Hearing protection.

19. HAZARDOUS MATERIAL DRIVER

- a. Safety shoes with steel safety toe (S2 EN 345 TYPE H OR ST).
- b. Rubber Gloves.
- c. Eye Goggles.
- d. Eye Wash Bottle.
- e. Equipment needed for vehicle, detailed in Chapter 18 Hazard Materials Communication.

20. HEATING EQUIPMENT OPERATOR

- a. Safety shoes with steel safety toe (S2 EN 345 TYPE H OR ST).
- b. Gloves, leather, strap closure (cream M 1950, LIN J 68064).
- c. Hearing protective devices.

Appendix J (continued)

- d. Gloves, leather, strap closure (cream M 1950, LIN J 68064).
- e. Gloves, leather, strap closure (cream M 1950 LIN J 68064).

21. KITCHEN PERSONNEL

- a. Rubber boots, slip proof, oil resistant, acid resistant, lightweight, no steel cap.
- b. Apron (NSN 8415-00-00A-1938).
- c. Gloves, rubber, fire proof up to +40 Degree C, oil resistant, acid resistant (DIN 4841).
- d. Protective hand cream to prevent skin damage caused by cleaning material.

22. MASONER

- a. Safety shoes with steel toe, spike resistant, (S3 EN 345 TYPE ST).
- b. Safety boots in cold weather (S3 CIEN 345 TYPE SHH).
- c. Rubber boots, with steel safety toe, S5 CEN 345 GS proofed.
- d. Gloves, leather, strap closure (cream M 1950 LIN J 68064).
- e. Cap, protective maintenance personnel (shoes 81141N, DA Pam 385-3, CTA 50-900). (An equivalent cap must be obtained if above cap cannot be requisitioned through normal supply channels).
- f. Parka, wet weather (DIN 61536) w/removable insert.
- g. Trousers, wet weather (DIN 61436), yellow with removable insert.
- h. Protective Hand cream

23. MEAT CUTTER

- a. Apron, meat cutter, brass bib adjustable strap (LIN A 87275).
- b. Gloves, meat cutter, wire mesh (LIN J 63817).

Appendix J (continued)

24. METAL WORKER (including metal workers working at construction sites)

- a. Safety shoes with steel safety toe, spike resistant insole (S3 EN 345 TYPE ST).
- b. Gloves, leather, strap closure (cream M 1950, LIN J 68064).
- c. Protective Hand cream

25. PAINTER

- a. Safety shoe's with steel safety toe, spike resistant insole (S3 EN 345 TYPE H).
- b. Respirators, air filtering for spray painting (NSN 4240-00-022-2524), or other filters as appropriate.
- c. Cap (Anstosskappe).
- d. Protective Hand cream.
- e. Hand cleaner for paint, meeting requirements of VbFAII.
- f. Gloves, cloth.

26. PEST CONTROLLER

- a. Gloves, rubber, acid and alkali resistant (LIN J 69160).
- b. Goggles (NSN 4240-00-052-3776).
- c. Respirators for pesticides (NSN 4240-01-035-9250).
- d. Coveralls, safety industrial, cotton sateen white (LIN F 33046).
- e. Protective Hand cream.
- f. Boots, rubber, with steel safety toe S5 CEN 345 GS proofed.
- g. Safety shoes with steel safety toe, spike resistant, S3 EN 345 TYPE H.
- h. Beekeeper hat and veil.

Appendix J (continued)

27. PHOTOGRAPHS/PHOTO LABORATORIES

- a. Goggles, industrially, one piece (DA Pam 385-3, CTA 50-970).
- b. Respirator, air filtering (NSN 4240-00-069-2684).
- c. Faceshield, industrial (NSN 4240-00-439-3540).
- d. Gloves, rubber (NSN 8415-00-266-8673/75/77/79).
- e. Apron, impermeable (8415-00-082-6108).
- f. Eye lavage (DA Pam 385-3, Fig 11-3).
- g. Protective Hand cream.

28. PRINTER

- a. Gloves, rubber, acid resistant (DIN 4841).
- b. Goggles, industrial, one-piece, plastic lenses, ventilated (NSN 4240-00-052-3776).
- c. Hearing protection devises.
- d. Protective Hand cream.

29. PLUMBER

- a. Safety shoes with steel safety toe, spike resistant insole (S3 EN 345 TYPE ST).
- b. Gloves, leather, strap closure (cream M 1950, LIN J 68064).
- c. Parka, wet weather, DIN 61536, yellow w/removable insert.
- d. Trousers, wet weather, DIN 61536.
- e. Safety boots, extreme cold weather (S3 CIEN 345 TYPE SHH).
- f. Boots, rubber, S5 CEN 345 GS proofed.

Appendix J (continued)

- g. Protective Hand cream.

30. REFRIGERATOR REPAIRMAN

- a. Deep Freeze Jacket.
- b. Deep Freeze Trousers.
- c. See electrician number 8.

31. ROAD REPAIRER

- a. Safety shoes, Steel toe, spike resistant (S3 EN 345 TYPE ST).
- b. Rubber boots, steel toe, spike resistant (S5 CEN 345 GS proofed).
- c. Safety Helmet with mounted or integrated hearing protection device.
- d. Warning Vest (DIN 30711).
- e. Boots for extreme cold weather, S3 CIEN 345 TYPE SHH.
- f. Gloves, leather, strap closure (cream M 1950 LIN J 68064).
- g. Parka, wet weather (DIN 61536) with removable insert.

32. ROOFER

- a. Safety shoes with steel safety toe (S2 EN 345 TYPE H OR ST).
- b. Safety helmet, IAW DIN 4840.
- c. Gloves, leather, strap closure (cream M 1950, LIN J 68064).
- d. Parka, wet weather, DIN 61536, yellow with removable insert.
- e. Trousers, wet weather, DIN 61536.
- f. Respirator, asbestos (P3).
- g. Coverall with head protection, throwaway (one way use).

Appendix J (continued)

33. SAFETY PERSONNEL

- a. Safety shoes with steel safety toe, S3 EN 345 TYPE H.
- b. Cap, protective maintenance personnel (LIN 81141N, DA Pam 385-3, CTA 50-900). (An equivalent cap must be obtained if above cap cannot be requisitioned through normal supply channels).
- c. Safety helmet (DIN 4840).
- d. Hearing protection devices.
- e. Parka, wet weather, DIN 61536, yellow w/removable insert.
- f. Boots, rubber, S5 CEN 345 GS proofed.
- g. Safety boots cold weather (S3 CIEN 345 TYPE SHH).
- h. Equipment authorized to be ordered per Safety office:
 - (1) Gas analysis meter.
 - (2) Meter foot candle (illumination).
 - (3) Noise audiometer.
 - (4) Camera Polaroid.

34. SEWAGE WORKER (working outside at any weather condition)

- a. Safety shoes with steel toe, spike resistant, (S3 EN 345 TYPE ST).
- b. Safety boots cold weather (S3 CIEN 345 TYPE SHH).
- c. Rubber boots, with steel safety toe, S5 CEN 345 GS proofed.
- d. Gloves, leather, strap closure (cream M 1950 LIN J 68064).

Appendix J (continued)

e. Cap, protective maintenance personnel (LIN 81141N, DA Pam 385-3, CTA 50-900). (An equivalent cap must be obtained if above cap cannot be requisitioned through normal supply channels).

f. Parka, wet weather (DIN 61536) w/removable insert.

g. Trousers, wet weather (DIN 61436), yellow w/removable insert.

h. Protective Hand cream.

35. SPORT FACILITY ATTENDANT

a. Safety shoes with steel safety toe (S2 EN 345 TYPE H).

b. Parka, wet weather (DIN 61536) with removable insert.

c. Gloves, leather, strap closure (cream M 1950 LIN J 68064).

d. Hearing protection.

36. TREE CUTTER

a. Safety helmet with integrated or attachable face shield and hearing protection (DIN 4840).

b. Gloves, leather, strap closure (cream M 1950 LIN J 68064).

c. Safety shoes with steel toe (DIN 4843, S6).

d. Protective clothing KWF (Kuratorium fuer Wald- und Forsttechnik) proofed.

37. TUBE AND TIRE REPAIRER

a. Safety shoes with steel safety toe (S2 EN 345 TYPE H).

b. Gloves, leather, strap closure (cream M 1950, LIN J 68064).

38. WAREHOUSE WORKER

a. Safety shoes with steel safety toe, non-sparking sole (S2 EN 345 TYPE H).

Appendix J (continued)

- b. Gloves, leather, strap closure (cream M 1950, LIN J 68064).
- c. Parka, wet weather (DIN 61536) with removable insert.
- d. Trousers, wet weather, with removable insert, DIN 61536.
- e. Safety boots, extreme cold weather (S3 CIEN 345 TYPE SHH).
- f. Safety helmet IAW DIN 4840.

39. WAREHOUSE WORKER *(PERSONNEL WORKING IN COLD STORAGE AREAS, FROZEN FOOD LOCKERS, OR COLD CHAMBERS WITH TEMPERATURES FROM +5C TO -30C (41F TO -22F)*.

- a. Deep Freeze Jacket.
- b. Deep Freeze Trousers.
- c. Deep Freeze Hood.
- d. Deep Freeze Gloves.
- e. Deep Freeze Boots.

40. WASH RACK ATTENDANT

- a. Gloves, leather, strap closure (cream M 1950, LIN J 68064).
- b. Parka, wet weather, with removable insert, DIN 61536.
- c. Rubber boots, rubber S5 CEN 345 GS proofed.
- d. Safety boots in cold weather (S3 CIEN 345 TYPE SHH).
- e. Safety shoes with steel safety toe (S3 EN 345 TYPE H).

41. WATER PLANT OPERATOR

- a. Safety shoes with steel safety toe (S2 EN 345 TYPE H).

Appendix J (continued)

- b. Gloves, leather, strap closure (cream M 1950 LIN J 68064).
- c. Parker, wet weather (DIN 61536) yellow with removable insert.
- d. Safety boots, in cold weather (S2 CIEN 345 TYPE SHH).

42. WELDER

- a. Safety shoes with steel safety toe (S3 EN 345 TYPE ST) spike resistant. Safety shoes extreme cold weather (S3 CIEN 345 TYPE SHH) for outside welding in wintertime.
- b. Apron, Blacksmith: bib type, leather (LIN A 85905).
- c. Gloves, leather, welders (LIN J 67379).
- d. Leggings, protective, industrial (LIN L 50863).
- e. Safety helmet with integrated (mounted) face shield (DA Pam 385-3).
- f. Respirator (appropriate for specific type of welding).
- g. Protective Hand cream.

Appendix K
RISK MANAGEMENT MATRIX

RISK ASSESSMENT MATRIX

E - EXTREMELY HIGH RISK
H - HIGH RISK
M - MODERATE RISK
L - LOW RISK

		PROBABILITY				
		FREQUENT	LIKELY	OCCASIONAL	SELDOM	UNLIKELY
S E V E R I T Y	CATASTROPHIC	E	E	H	H	M
	CRITICAL	E	H	H	M	L
	MARGINAL	H	M	M	L	L
	NEGLIGIBLE	M	L	L	L	L

Risk Level: E - Extreme High

H - High

M - Moderate

L - Low

WRAMC Pam 385-1

The proponent of this publication is the Installation Safety Office. Users are invited to send suggestion and comments on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, Walter Reed Army Medical Center, ATTN: MCWR-S, 6900 Georgia Avenue, NW, Washington, DC 20307-5001.

FOR THE COMMANDER:

OFFICIAL:

JEFFREY W. DAVIES
Colonel, MS
Garrison Commander

A handwritten signature in black ink, appearing to read 'S.A. McFarland III', written in a cursive style.

SAMUEL A. MCFARLAND III
Executive Officer
US Army Garrison, WRAMC

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